



LCC-S Configuration software for transmitters







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1. INTRODUCTION

The LCC-S software, available as option with the classes 110, 210-R, 310 and monostats transmitters, allows to configure the transmitter, to view data in real time and to apply an offset.

2. SOFTWARE INSTALLATION

2.1 Minimum system requirement

For the proper operating of the software, the following configuration is strongly required:

- Minimum configuration: Windows, XP, VISTA, 7
- Communication port: USB 2.0
- DVD driver
- RAM memory: 1 GB
- Available free disk: 1 GB

2.2 Software installation

- Put the DVD into the computer driver. The installation starts automatically. If not, go to "Computer", double-click the DVD driver then on the "Setup LCC-S" icon.
- > Follow the indications on the screen.

After double-clicking on the software launching icon



on the desktop, the homepage of the software opens:



3.

3.1 Meaning and function of the menu bar

- > Commands
 - **Read configuration:** allows to read the configuration of the transmitter connected to the computer.
 - Write configuration: allows to send the configuration to the transmitter.
 - Load configuration: allows to recover a configuration previously saved on the computer.
 - Save configuration: allows to save the configuration of the transmitter on the computer.
 - Correction: allows to apply a correction (or offset) to the transmitter.
 - **Bootloader:** allows to change the firmware version of the transmitter.
 - Exit: allows to quit the LCC-S software.
- > Parameters
 - Communication: allows to select the communication port.
 - Language: allows to select the software language: French or English
- ≻ ?
 - User manual: allows to open the user manual
 - **About:** shows the software version and the database version.

3.2 Meaning and function of the "Read" and "Load" buttons



This button allows to read the transmitter connected to the computer.



This buttons allows to load a configuration previously loaded on the computer.

4. READ THE TRANSMITTER

4.1 Class 110 and monostat transmitters

In order to the LCC-S software can correctly read a class 110 or a monostat transmitter, DIP switches of the transmitter must be positioned as follows:

- If only one switch is on the electronic board, set the 4 DIP-switches on "ON" position, i.e. on the right.
- If two switches are on the electronic board, set the 4 DIP-switches of the right switch on "ON" position i.e. on the right.







The transmitter must be powered on.

- > Connect the mini-DIN connection of the cable on the front face of the transmitter.
- Connect the other end of the cable on the USB connection of the computer.
- Double-click the software icon on the desktop to launch the LCC-S. The following window opens:



Click "Read". The loading window opens:



At the end of the loading, the software opens the "General" panel:

😨 LCC S - v 0.9	
Commands Para	ameters ?
-	Instrument
General	CO2ST Software version: 1,06 (893)
Channels	General
Alarms Settings	Options No option
	Write configuration

This window presents the type of connected transmitter, the transmitter version, its possible options and the switches configuration.

4.2 Classes 210-R and 310 transmitters

For the class 210-R transmitters, there is no switch configuration needed. For the class 310 transmitters, there is no switch.

- > Open the transmitter and connect the mini-DIN connection on the transmitter (see technical datasheet).
- Connect the other end of the cable on the USB connection of the computer.
- Double-click the software icon on the desktop to launch the LCC-S. The following window opens:



Click "Read". The loading window opens:

At the end of the loading, the software opens the "General" panel:

🕞 LCC S - v 1.9		
Commands Para	meters ?	×
_	Instrument	
General	TH21 Software version 1.01 (4)	0-R
4	General	
Analog I/O	Display Backlight Permanent Brightness 10 Contrast 4	Keypad lock ON OFF
Relay	Options No option	Analog output type 4 - 20 mA
	Write cor	nfiguration



"General" panel for a class 310 transmitter

"General" panel for a class 210-R transmitter

For a class 210-R transmitter, this window presents:

- the type of connected transmitter
- the transmitter version
- its possible options
- its display (if there is one)
- the "On" or "Off" mode of the keypad
- the type of output of the transmitter

For a class 310 transmitter, this window presents:

- the type of connected transmitter
- the transmitter version
- its possible options
- its display (if there is one)
- the settings of the keypad
- the date and hour

5. CONFIGURE THE DISPLAY AND THE KEYPAD (CLASSES 210-R AND 310 TRANSMITTERS)

5.1 Configure the display

On **"General"** panel, for classes 210-R and 310 transmitters with display, it is possible to set the backlight duration, the brightness and the contrast of the screen.

- Set the backlight: select the required duration between Off, 10 s, 30 s, 60 s, and Permanent.
- Set the brightness between 0 and 10.
- Set the contrast between 0 and 3.
- > Click "Write configuration" on the bottom of the window to send the modifications to the transmitter.

5.2 Activate or deactivate the keypad (class 210-R)

For more safety and to avoid any operating error, it is possible to hold the keys of the transmitter.

- Select **"ON"** to deactivate the keys or **"OFF"** to activate them.
- Click "Write configuration" on the bottom of the window to send the modifications to the transmitter.

5.3 Configure the keypad (class 310)

5.3.1 Activate or deactivate the keypad

For more safety and to avoid any operating error, it is possible to hold the transmitter keys.

- Select **"ON"** to deactivate the keys or **"OFF"** to activate them.
- Click "Write configuration" at the bottom of the window to send the modifications to the transmitter.

5.3.2 Change the password

For more safety, the keypad of the class 310 transmitters is protected by a password.

- Click "Modify".
- > Enter a new password then click "Validate".
- > Click "Write configuration" at the bottom of the window to send the modifications to the transmitter.

5.3.3 Activate or deactivate the key beep

Tick "ON": the key beep is activated.

- > Tick **"OFF":** the key beep is deactivated.
- > Click "Write configuration" at the bottom of the window to send the modifications to the transmitter.

The key beep is unavailable on the CPE310-S transmitters.

5.4 Modify the date and hour format (class 310)

Select the date format and the hour format.

Click "Write configuration" at the bottom of the window.





O ON

O OFF

Keypad	
Keypad lock	ON OFF
Password	Change
Key beep	ON OFF



Backlight:	Off	
Brightness:	0 🚔	
Contrast:	4	

Display

Keypad lock:

6. CONFIGURE THE MODBUS AND ETHERNET COMMUNICATIONS (CLASS 310 TRANSMITTERS)

6.1 Configure the ModBus communication

The ModBus is a RTU digital protocol with a configurable communication speed from 2 400 to 115 20 Bauds.

Click "Communication".

The following window opens:

S - v 1.7 nands Parame	eters ?		
•	Instrument:		
U leneral	Software version Serial	C310 1.03 (618) 3F 13.08.09999	
	Communication		
hannels	RS-232 / ModBus Modbus slave number:	1 (r) 19200 Bps •	
	Ethernet		
Alarms	Instrument: Adesse MA() Address Mask Gateway Port	00507D-444080F 192168.1.1 25525.255.0 192168.1.254 502	
ettings			

In the "RS485 / ModBus" part:

- Select the ModBus slave number.
- > Adjust the communication speed from 19 200 to 115 200 bauds.
- > Click "Write configuration" at the bottom of the window to send the modifications to the transmitter.

6.2 Configure the Ethernet communication

The Ethernet communication module allows the transmission, the supervision and the maintenance of the transmitters through an Ethernet network in 10 BASE-T and 100 BASE-TX LAN/WAN supporting the TCP/IP protocol.

In the "Ethernet" part:

> Enter the address, the mask, the gateway and the port.

This information is contained in the network characteristics to which will be connected the transmitter.

> Click **"Write configuration"** at the bottom of the window to send the modifications to the transmitter.



7. SET THE CHANNELS AND THE UNITS OF MEASUREMENT

> Click "Channel".

The following window opens.

🕞 LCC S - v 0.9		💿 LCC S - v 1.7	And in case of the local division of the loc		
Commands Para	meters ?	Commands Para	meters ?		×
	Instrument	-	Instrument:		
l	CP211-R	General	C310		
General	Software version: 1,05 (857)		Software version 1.03 (618) Serial 3F 13.08.09999		180
44	e det	1		0	THE REAL
(S	1626		Channels		
Channels	Channels	t C	Configuration Measure		
	Configuration Measure	Channels	Channel 1 probe Module		
Analog I/O			Unit channel 1 Pa		
	Unit channel 1: Pa	Analog I/O			
N		Ļ	Channel 2 probe Module		
Velocity and flow		Alarms	Unit channel 2 m/s -		
/ .	Unit channel 2' None				
Belay		Veloicyt and flow	Channel 3 probe Module		
		~ .	Unit channel 3 m3/h 👻		
		Relay			
Settings		10 A	Channel 4 probe Module -		
		Settings	Unit channel 4 C		
	Write configuration		Write co	nfiguration	

Channels configuration classes 110, 210-R transmitters and monostats

Channels configuration class 310 transmitter

This part has two tabs:

- "Configuration" tab
- "Measure" tab (see page 26)

Classes 110, 210-R and Monostats:

- Click "Configuration" tab.
- Select in the drop-down list the measurement unit for the channel 1. If the transmitter has several measurement channels, the others channels will be displayed with the available units for these channels.
- > Click **"Write configuration"** on the bottom of the window to send the modifications to the transmitter.

Class 310: (unit)

- > Click "Configuration" tab.
- > Attribute **"Module"**, **"Probe 1"** or **"Probe 2"** for each available channel.
- > Select **"None"** to attribute nothing to the channel.
- > Then attribute a unit for each available channel.
- > Click "Write configuration" at the bottom of the window to send the modifications to the transmitter.

8. SET THE ALARMS (MONOSTATS AND CLASS 310 TRANSMITTERS)

This part is for the monostats (PST, HST, TST, COST and CO2ST), the classes 210-R (COT212-R, CP210-R, CTV210-R, TH210-R and TM210-R) and 310 (C310, CPE310-S and CA310) transmitters only.

8.1 Monostats

Click **"Alarm"**.

The following window opens:

Commands Para	neters 7
	Instrument
General	CO2ST Software version: 1,06 (893)
Channels	Alarmes
Alarms	Alarm sound: ON OFF Relais 1 Alarm mode: Rising edge mode and delay T1: Delay 1 T2: Delay 2 t: Time Measurement S: Threshold H: Hysteresis
	Threshold Delay 1: 0 🔅 Sec.
	Hysteresis : 2600 文 ppm Delay 2: 0 📩 Sec.
	Security level of alarms : 🔘 Positive 🔘 Negative
	Write configuration

It is possible to activate or deactivate an alarm sound during an alarm condition:

- Select "ON" to activate the alarm sound or "OFF" to deactivate it in front of "Alarm sound".
- Select in the drop-down list the alarm mode between:
 - No alarm
 - "Rising edge mode and delay"
 - "Falling edge mode and delay"
 - "Control (threshold 1, threshold 2 and delay)"

Set the values for the threshold 1, the hysteresis and delays 1 and 2 for the **"Rising edge and delay"** and **"Falling edge and delay"** modes.

OR

Set the thresholds 1 and 2 and the delays 1 and 2 for the "Control (threshold 1, threshold 2 and delay)" mode.

> Click **"Write configuration"** on the bottom of the window to send the modifications to the transmitter.

8.2 Class 310 transmitters

Click "Alarms".

The following window opens:



- Click the tab of the required alarm.
- Select in the drop-down list the alarm mode between:
 - No alarm
 - Rising edge mode and delay
 - Falling edge mode and delay
 - Control (Threshold 1, Threshold 2 and delay)
 - Sensor state

If the "Rising edge mode and delay", "Falling edge mode and delay" or "Control (Threshold 1, Threshold 2 and delay)" mode is selected:

- > Select the channel on which the alarm will be active.
- Adjust the values of the threshold 1, the hysteresis and the delays 1 and 2 for the modes "Rising edge mode and delay". OR
 Condition
- Adjust the values of the thresholds 1 and 2 and the delays 1 and 2 for the mode "Control (Threshold 1, Threshold 2 and delay)".
- Click "Write configuration" to send the modifications to the transmitter.

If the "Sensor state" is selected:

- Select the channel on which the alarm will be active.
- Click "Edit conditions". The window of alarm conditions opens.
- Tick the required conditions then click "Validate".



It is possible to tick several alarm conditions.

> Click "Write configuration" to send the modifications to the transmitter.

Alarm 1		
Ambient temperatu Ambient temperatu Memory error Pressure module e Probe 1 error Probe 2 error Pressure value too	rre too high rre too low mor high	

For all modes:

- Select "ON" or "OFF" to activate or not the audible alarm: if "ON" is selected, a sound will be heard as soon as the transmitter is in alarm state.
- Select the alarm acknowledgement duration between 0 and 60 minutes: the audible alarm, if it is activated, turns off and the displayed value blinks during the acknowledgement duration (from 0 to 60 minutes). At the end of the acknowledgement duration, if the transmitter is still in alarm state, the audible alarm is reactivated.

8.3 Details of the alarm modes



Measurement (m) > Threshold (S) during the time-delay T1 \rightarrow alarm activation.

Measurement (m) < Threshold (S) - Hysteresis (H) during the time-delay T2 \rightarrow Alarm deactivation



Measurement (m) < Threshold (S) during time-delay T1 \rightarrow Alarm activation

Measurement (m) > Threshold (S) + Hysteresis (H) during time-delay T2 \rightarrow Alarm deactivation



The alarm goes off when the measurement is outside the low and high thresholds.

Monitoring

9. SET THE INPUTS AND OUTPUTS (CLASSES 110, 210-R AND 310 TRANSMITTERS)

With this function, it is possible to modify the outputs ranges of the transmitter, **you can configure your own intermediary ranges.**



The configuration of the inputs and outputs is for classes 110, 210-R and 310 transmitters only.

9.1 Set the inputs and outputs for the classes 110 and 210-R transmitters

Click "Analogue I/O". The following window opens.

🕞 LCC S - v 1.9						- • ×
Commands Para	meters ?					×
_	Instrument					
General	Software vers	ion 1.01 (4)	H210-R			St Non 2 ISt
•	Analog I/O					
Analog I/O	Analog output chan	inel 1	Minimum	0.0	×	%RH
∕.	L	Test	Maximum	100,0	×	%RH
Relay	Analog output chan	inel 2	Minimum	0.0	<u>A</u>	°C
	ſ	Test	Maximum	50,0	-	°C
		V	Vrite configuration			

- > Enter the minimum and the maximum for each analogue output.
- > Click "Write configuration" on the bottom of the window to send the modifications to the transmitter.

9.2 Set the inputs and outputs for the class 310 transmitters

Click "Analogue I/O".

The following window opens:

💿 LCC S - v 1.7						_ D X
Commands Paran	neters ?					×
2	Instrument					
General Communication	Software ve S	rsion 1.03 (618 Serial 3F 13.08	310) 3.09999			
H 4	Analog I/O					
L.	Analog output cha	annel 1				
Channels	Type :	4 - 20 mA 🔻	Minimum	0	×	None
		Test	Maximum	0	*	None
	Analog output cha	annel 2				
Analog I/O	Type :	4 - 20 mA 🔹	Minimum	0.0	×	m/s
		Test	Maximum	0.0	*	m/s
—	Analog output cha	annel 3				
Alarms	Type :	4 - 20 mA 🛛 🔻	Minimum	0.0	*	m3/h
		Test	Maximum	0,0	×	m3/h
Velocity and flow	Analog output cha	annel 4				
velocity and now	Type :	4 - 20 mA 🔹	Minimum	0,0	*	°C
~ .		Test		0.0	×	°C
Relay						
		٧	Vrite configuration			

- Select the type of output: 4-20 mA, 0-20 mA, 0-10 V, 0-5 V.
- > Adjust the minimum and the maximum for each analogue output.
- > Click "Write configuration" at the bottom of the window to send the modifications to the transmitter.

The inputs are available only on the CA310 with the MVA module.

9.3 Test the analogue outputs (classes 210-R and 310 transmitters)

Once the configuration of outputs and inputs has been performed, it is possible to test them with an external measurement device.



This test is available for the class 210-R transmitters only.

This test allows to check on a multimeter, a regulator or an automate, the proper functioning of the outputs. The transmitter will generate a voltage (between 0 and 10 V) or a current (between 0 and 20 mA) according the setting of the electronic board switch.

- For a 0-10 V output signal, the transmitter will generate 0 5 or 10 V.
- For a 0-5 V output signal, the transmitter will generate 0 2.5 or 5 V.
- For a 4-20 mA output signal, the transmitter will generate 4 12 or 20 mA.
- For a 0-20 mA output signal, the transmitter will generate 0 10 or 20 mA.

Before trying to perform an outputs diagnostic, check that connections and configurations of the transmitter are operational to avoid any damage on the transmitter and on the external device.

- Select a channel for the outputs diagnostic.
- > OUT1 or OUT2, indicated on the electronic board above the terminal blocks (see photos above).



> Connect a measurement device on the channel 1 or 2.

Once the connection is done, it is possible to diagnose the analogue outputs on several checkpoints:

Click "Test" on the "Analogue I/O" window. The following window opens:



> Click **0%**, **50%**, **100%** or **Reset**.

Diagnostic hutton	G	eneration accordi	ng to the output sign	al
Diagnostic button	0-10 V	0-5 V	0-20 mA	4-20 mA
Reset		Back to mea	asurement mode	
0%	0 V	0 V	0 mA	4 mA
50%	5 V	2.5 V	10 mA	12 mA
100%	10 V	5 V	20 mA	20 mA

10. SET THE MEASUREMENT IN AIR VELOCITY AND AIRFLOW

This setting only concerns the CP210-R and CTV210-R transmitters and the class 310 transmitters with a pressure module or a velocity probe available in option.

10.1 Select the measuring means (CP210-R with SQR3 option, C310 and CA310 with pressure module and SQR3 option)

The calculation of air velocity being calculated from the pressure (for a CP 210-R transmitter and a class 310 transmitter) and from a differential pressure element, the used differential pressure element must be selected to perform the measurements. The coefficient of this element and the air velocity correction coefficient must be then entered.

> Click "Velocity and flow".

The following window opens:

ECC S - v 0.9	
Commands Para	meters ?
9	Instrument
General	Software version: 1,05 (857)
Channels	Velocity and flow Measurement
Analog I/O	Measuring means:
Velocity and flow	$\begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} $
Relay	Compensation Dimensions Fixed temperature compensation (T comp) Type section: Rectangular • 20 * * 20 * * Unit: mm Length: 100 * mm Diameter: 100 * mm Pressure unit for Cd calculation Pa * Flow coefficient (Cd) *
	10,00
	Write configuration

In "Measurement" part:

- Select the measuring means between:
 - Pitot L
 - Pitot S
 - Debimo
 - Coefficient of the sensing element (Cm)
- Enter the air velocity correction coefficient (Cc) if needed. This coefficient must be between 0.0000 and 9.9999.
- > If "Coefficient of the sensing element (Cm)" has been selected as measuring means, enter its coefficient.



10.2 Set the temperature compensation (CP210-R, C310 and CA310)

It is possible to modify the temperature compensation value. Indeed, the air velocity and the airflow measured with a Pitot tube and/or Debimo blades (or with any other differential probe) depends on the operating temperature. Therefore, it is necessary to enter the operating temperature in order to get more coherent results.

- In "Compensation" part:
 - Select the unit (°C or °F)
 - > Enter the temperature compensation value.

10.3 Set the type of section (CP210-R, CTV210-R, C310 and CA310)

In "Dimensions" part of the "Velocity and flow" panel:

- Select the type of section: circular, rectangular or flow coefficient.
- > Select the unit for a rectangular section: mm or inch
- > Enter the dimensions:
 - Length and width for a rectangular section.
 - Diameter for a circular section.

OR

- > Enter the Cd value for a flow coefficient.
- > Click **"Write configuration"** on the bottom of the window to send the modifications to the transmitter.

11. CONFIGURE THE RELAYS

The relay outputs are, by default, in **negative security**: the relay is **energised** during an alarm condition. Via the software, it is possible to configure the relays in **positive security**: the relay is **de-energised** during an alarm condition or a power cut.

11.1 Class 210-R transmitters

- > Click "Relay".
- Select **"Positive"** or **"Negative"**.

To perform a relay test:

- > Click **"Relay test 1 or 2"**: the relay switch then returns to its normal state after 1 second.
- Click the tab of the required relay.
- > Select in the drop-down list the alarm mode between:
 - No alarm
 - Rising edge mode and delay
 - Falling edge mode and delay
 - Control (Threshold 1, Threshold 2 and delay)

ECC S - v 1.9 Commands Para	meters ?
	Instrument
General	TH210-R Software version 1.01 (4)
4	Relay
Analog I/O	Relay 1 Security Relay 1 test
	Relay 2 Security Negative Positive Relay 2 test
	Relay 1 Relay 2
Relay	Channel 1 😤 %RH
	Alarm mode Rising edge mode and delay
	T1: Delay 1 T2: Delay 2 t: Time m: Measurement S: Threshold H: Hysteresis
	Threshold
	Inreshold DU %RH Delay1 0 Sec. Hysteresis: 10 %RH Delay2 0 % Sec.
	Write configuration

If the "Rising edge mode and delay", "Falling edge mode and delay" or "Control (Threshold 1, Threshold 2 and delay)" mode is selected:

- Select the channel on which the alarm will be active.
- Adjust the values of the threshold 1, the hysteresis and the delays 1 and 2 for the modes "Rising edge mode and delay" and "Falling edge mode and delay".
 OR
- Adjust the values of the thresholds 1 and 2 and the delays 1 and 2 for the mode "Control (Threshold 1, Threshold 2 and delay)".
- > Click **"Write configuration"** to send the modifications to the transmitter.

See details about alarm modes page 15.

11.2 C310 and CA310 transmitters

➤ Click "Relay".

The following window opens:

🕞 LCC S - v 1.7	-							
Commands Parar	neters	,						×
9	Instr	ument:						
General		Software ve S	rsion Serial	C 1,03 (618 3F 13.08	310) 3.09999			
# #	Rela	У						
Channels	Relay 1	ON	Ŧ	Security	Positive		Vegative	Test relay 1
	Relay 2	OFF	•	Security	Positive	•	Vegative	Test relay 2
Analog I/O	Relay 3	OFF	•	Security	Positive	0	Vegative	Test relay 3
Alarms Velocity and flow Relay Settings	Relay 4	OFF	•	Security	Positive	10	Negative	Test relay 4
				۷	Vrite configu	ation	1	

- > Select "ON", "OFF" or "Alarm 1, 2, 3, 4" in the list of the required relay.
 - "ON" is selected: the relay is permanently activated.
 - **"OFF"** is selected: the relay is deactivated.
 - "Alarm 1, 2, 3 or 4" is selected: the relay triggering is assigned to an alarm previously configured.
- Select "Positive" or "Negative".



To perform a relay test:

> Click "Relay test 1, 2, 3 or 4": the relay switch then returns to its normal state after 1 second.

12. OTHERS SETTINGS

12.1 Class 210-R transmitters

12.1.1 Set the time-delay between self-calibrations (CP211-R and CP212-R)

For pressure transmitters having a self-calibration solenoid valve (CP211-R and CP212-R), it is possible to set an interval between two self-calibrations.

> Press "Settings".

The following window opens:

LCC S - v 0.9	and the second second	
Commands Para	meters ?	×
-	Instrument	
General	CP211-R Software version: 1,05 (857)	2463; 2 48t
Channels	Settings	
	Autocalibration delay in minute(s) (0 (off) -> 60 min)	10 💌
Analog I/O	Integration	
$\mathbf{\mathbf{x}}$	Pressure integration coefficient (0 to 9): 0 🔺	
	Altitude	
Settings	Value: 0,0 🛓 m	
✓.		
Relay		
	Write configuration	

- Set the time-delay in minute from 0 (Off, no time-delay) to 60 minutes.
- > Click "Write configuration" on the bottom of the window to send the modifications to the transmitter.

12.1.2 Pressure measurement integration (CP210-R and CTV210-R)

The pressure measurement element is very sensitive and reacts to pressure changes. When making measurements in unstable air movement conditions, the pressure measurement may fluctuate. The integration coefficient (from 0 to 9) makes an average of the measurements; this helps to avoid any excessive variations and guarantees a stable measurement.

New displayed value = [((10 - Coef.) x New value) + (Coef. x Old value)] /10

Example: CP212 (0-1000 Pa) - First measurement: 120 Pa - New measurement: 125 Pa

The pressure source is stable, the user applies a low integration. Integration: 1, maximum variation allowed ± 10 Pa. The variation is less than 10 Pa, we apply the integration calculation formula.

Next measurement displayed: ((9 * 125) + (1 * 120))/10 = 124.5 i.e 124 Pa. If the new value had been 131 Pa, the next displayed value would have been 100% of the new value, i.e 131 Pa.

Still in the "Settings" panel:

- > Set the integration value between 0 and 9 with:
 - **Coefficient 0:** no integration, important fluctuation of the displayed measurement, fast response time.
 - **Coefficient 9:** maximum integration, more stable reading, slowest response time.
- > Click **"Write configuration"** on the bottom of the window to send the modifications to the transmitter.

12.2 Class 310 transmitters

12.2.1 Adjust the purge time

The purge mode allows to freeze the measurement in the display, block the analogue outputs and activate the relay 1 in order to command a collecting system of an aeraulic network and activate the relay 2 in order to isolate the transmitter.

Click "Settings".

The following window opens:

imeters ?	
Instrument	
C31	0
Software version 1.05 (620)	16
Serial 3F 13.08.099	99
	1000
Cattinua	
Settings	
Activate ON OFF	Purge time 1 🔹 Sec.
Interval between	two purges 1 📩 Min.
	Delay 1 🐳 Sec.
Normative values	
Integration	
Module pressure integration coefficient (0 to 9)	0
Probe 1 air velocity integration coefficient (0 to	9) 0 👘
Probe 2 air velocity integration coefficient (0 to	9) 0 👘
Autocalibration delay in minute(s) (0 (off) -> 60 n	nin) 10 🚔
Instrument compensation	Probe 1 compensation
Altitud / Atmospheric pressure	Altitud / Atmospheric pressure
hPa • 1013,3 hPa	hPa 🔹 1013,3 👘 hPa
Probe 2 compensation	
Probe 2 compensation Altitud / Atmospheric pressure	

In the **"Purge"** part:

- Select **"ON**" to activate the purge mode.
- Adjust the purge time between 0 and 100 seconds.
- Adjust the interval between two purges between 0 and 100 minutes.
- > Adjust the delay between 0 and 100 seconds.
- > Click **"Write configuration"** at the bottom of the window to send the modifications to the transmitter.

12.2.2 Select a normative value

It is possible to select a standard, which allows to bring back the measured values to the measured values in normal environmental conditions.

In the "Normative values" part:

- Select in the drop-down list:
 - DIN1343
 - ISO2533
- > Click **"Write configuration"** at the bottom of the window to send the modifications to the transmitter.

Normative values	
Normative values:	DIN1343 -

Activate	ON	OFF	Purge time	10	*	Sec.
			Interval between two purges	1	*	Min.
			Delay	1	*	Sec.

12.2.3 Enter an integration

It is possible to enter an integration coefficient allowing to smooth the measurement and thus to avoid the untimely variations. The concerned settings are the pressure and the velocity.

Integration		
Module pressure integration coefficient (0 to 9)	0	-
Probe 1 speed integration coefficient (0 to 9)	0	* *
Probe 2 speed integration coefficient (0 to 9)	0	-

In the "Integration" part:

- Select the integration coefficient in pressure between 0 and 9. A pressure module must be connected to the transmitter.
- Select the integration coefficient in velocity between 0 and 9. A velocity probe must be connected to the location 1 or 2 of the transmitter.
- > Click **"Write configuration"** at the bottom of the window to send the modification to the transmitter.



Coefficient 0: no integration

Coefficient 9: maximum integration, reading more stable.

12.2.4 Adjust the delay-time between 2 auto-zeros

- Enter a value between 0 and 60 minutes on the line "Delay-time between 2 auto-zeros in minute(s) (from 0 to 60 min)".
- > Click **"Write configuration"** at the bottom of the window to send the modifications to the transmitter.



Delay-time 0: no auto-calibration.

Delay-time 60: maximum deviation between 2 auto-calibrations (60 minutes).

12.2.5 Enter a compensation

It is possible to enter a compensation in altitude or in atmospheric pressure on the device with the connected probes. In the **"Compensation device"** part and/or **"Compensation probe 1"** and/or **"Compensation probe 2"**:

- Select the unit in pressure (hPa, mbar or mmHq), or in altitude (m).
- > Enter a value of atmospheric pressure or altitude.
- > Click "Write configuration" at the bottom of the window to send the modification to the transmitter.

13. READ THE MEASUREMENTS IN REAL-TIME

> Click "Channels".

The following window opens:

🕞 LCC S - v 0.9	
Commands Parar	meters ?
	Instrument
General	CP211-R Software version: 1,05 (857)
Channels	Channels
	Configuration Measure
Analog I/O	Unit channel 1: Pa 🔹
Velocity and flow	Unit channel 2: None
Settings	
	Write configuration

This part has two tabs:

- "Configuration" tab. •
- "Measure" tab. •
- > Click **"Measure"** tab. The following window opens:

😨 LCC S - v 0.9	
Commands Parar	neters ?
	Instrument
General	Software version: 1,05 (857)
Channels	Channels
	Configuration Measure
Analog I/O	Instantaneous measurements
	Channel Measure
Velocity and flow	
velocity and now	3
~ .	4
Relay	History
\$	Display: Graph Table
Settings	F 2.00]
	- 1.00 -
	- 0,00 -
	1,00
	the second second
	210 ^{00,08.} C ^{0.} C ^{0.}
	Write configuration

Click "Play"

- Measured values are displayed in front of the channel number.
 Tick "Graph" or "Table" box in "History" part to select the visualisation mode of the values.

14. ACTIVATE AN OPTION (CLASS 310 TRANSMITTERS)

The class 310 transmitters have options that are activated with the software. Beforehand, it is imperative to obtain from Kimo a key allowing to activate the required option.

> Click "Commands" menu then "Options".

Serial :	3F 13.08.09999
Options :	•
Kev:	Valida

- > Enter the key provided by the company.
- > Click "Validate".

The available options are as follows:

- C 310: Velocity/airflow (from the pressure measurement) High resolution in pressure ModBus Two additional analogue outputs – Relay – Ethernet
- **CPE 310-S:** High resolution in pressure Modbus
- CA 310: Velocity/airflow (from the pressure measurement) High resolution in pressure ModBus Ethernet

15. UPDATE THE SOFTWARE

It is possible to update the firmware of the transmitter, it means the internal software that allows to the transmitter to work properly.

- The transmitter is connected to the computer.
- Click "Commands".
- Click "Bootloader".
- The "Bootloader" wind opens.
- Click "Browse".
- ➤ Go to the location where the update file is.

This file is supplied by the Kimo After-sales service.

Bootloader		×
File selection	n	
Update		
Send		
	0,0 %	
		Exit

16. SAVE AND LOAD A CONFIGURATION

When a transmitter has been configured according to the desired criterion, it is possible to save this configuration and then apply it to another transmitter.

16.1 Save the configuration

- Click "Commands" menu.
- Click "Save configuration".

16.2 Load a configuration

- Click "Commands" menu.
- Click "Load configuration". The following window opens:



- ➤ Click "+" sign of the directory where the desired configuration is saved.
- > Click the configuration to load on the transmitter.
- Click "Open".

A loading window opens with a progress bar opens and disappears when the configuration has been completely loaded on the transmitter.



Configuration files are saved in the computer in the following location:

C:\Users\Public\Documents\KIMO Instruments\LCC S\Device configuration



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