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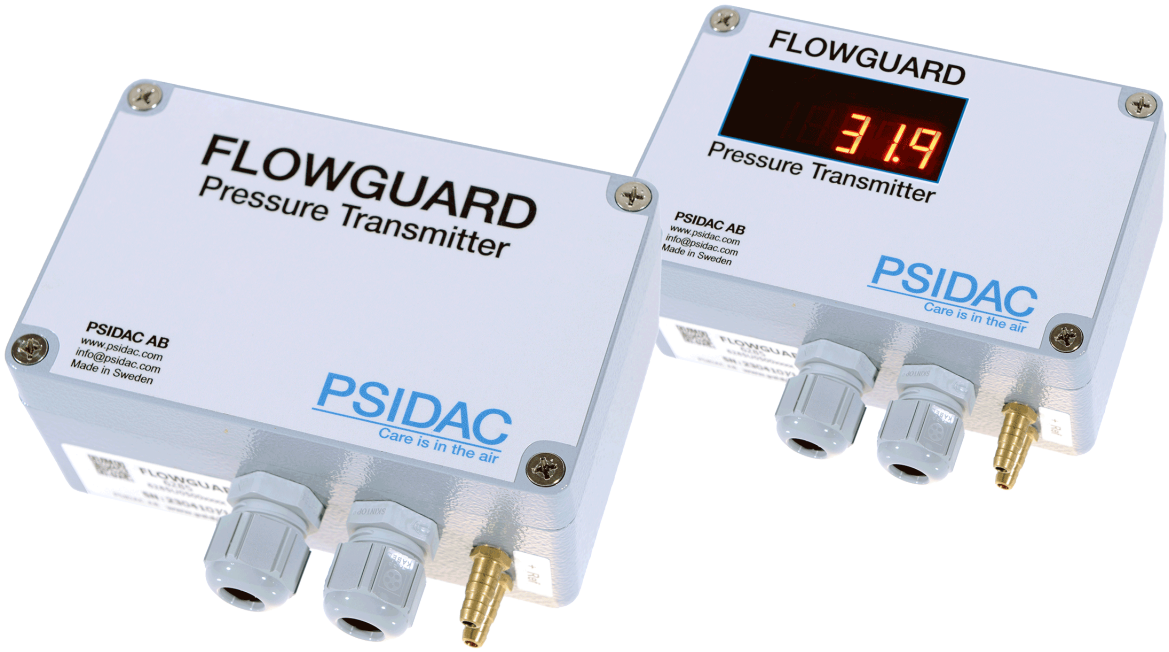
Care is in the Air

FlowGuard 6283 v.2

MANUAL



Rev. 2.11

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Index

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1 Introduction

Thank you for purchasing the FlowGuard 6283 v2.
The FlowGuard 6283 version 2 was released in the start of 2023. Version 2 has a faster and more advanced microprocessor, enabling better stability, higher accuracy and higher resolution to mention some features. The new processor also enables advanced Room modes (CPS), flow calculations (l/s) and Air changes per hour (ACPH). The FlowGuard sensor series have more models, view psidac.com for info. To identify earlier 6283 vs new 6283 v2 see section 15 for help.

2 General Note

Read this document carefully and get used to the operation of the device before you use it. Keep this document within easy reach near the device for consulting in case of doubt.

Mounting, start-up, operating, maintenance and removing from operation must be done by qualified, specially trained staff that have carefully read and understood this manual before starting any work.

The manufacturer will assume no liability or warranty in case of usage for other purpose than the intended one, ignoring this manual, operating by unqualified staff as well as unauthorized modifications to the device. The manufacturer is not liable for any costs or damages incurred at the user or third parties because of the usage or application of this device, in particular in case of improper use of the device, misuse or malfunction of the connection or of the device.

The manufacturer is not liable for misprints.

3 Warranty and limitation of liability

Warranty and limitation of liability
PSIDAC AB AB warrants that for thirty-six month following from delivery date from receipt by the buyer the products to be free from defects in material and workmanship. PSIDAC AB will repair or replace products found to be defected in material or workmanship without charge provided that:

A the product has not been subject to accident, abuse, incorrect wiring not done by PSIDAC AB, neglect, improper installation or service or use in violation of instructions given by PSIDAC AB
B the product has not been repaired or altered by anyone except PSIDAC AB
C the serial number is readable
D the defect developed during normal use, installation and service.
E PSIDAC AB must be contacted in advance in order to a RMA. The product is returned to PSIDAC AB transportation prepaid.

The warranty is strictly limited to repair or replacement of the product. PSIDAC AB is not responsible for any consequential loss or damages, which may occur by use of the product.

4 Disposal notes

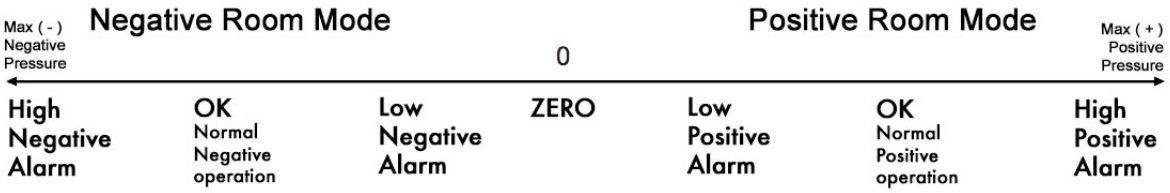
The device must not be disposed in the regular domestic waste.
Send the device directly back to us at Psidac AB. We will dispose the device appropriate and environmentally sound.

5 Assignment of Flowguard 6283 v2

FlowGuard 6283 v2 is a processor-based pressure transmitter. This gives the advantage of simple calibration and setup and as an added benefit no potentiometers that can add errors and drift. The sensor technology gives excellent long-term/temperature stability. The range on the label of the unit indicates the factory calibrated range.

Flowguard 6283 v2 has two analog output's, voltage and current, for both unidirectional and bidirectional pressure ranges. Every unit has been tested and calibrated before shipment. FlowGuard 6283 v2 is mounted in an aluminium case, IP54 with gasket mounted and the correct connections are used. Cables need to be connected in both cable glands (or a plug should be installed in the port not in use) in order to fulfil the IP54 classification.
Flowguard 6283 v2 can be used together with a Flow station for flow measurements and calculations made directly in the sensor.

Room Modes and Alarms
The Flowguard 6283 v2 have Positive and Negative Mode, and 2 alarms for each mode. This pressure line with zero in the middle shows the Room modes and Alarms to be setup correctly.



Start with the room pressure when it's adjusted correctly, i.e. it lands on + 20Pa under normal operation. So that's in Positive mode, then you can set a low alarm at +10Pa, and a high alarm at +30Pa. These 2 alarms will be used when in Positive Mode.

And if the room also is used in Negative mode and are adjusted for -30Pa in normal Negative operation, you can setup a Negative Low Alarm at -10Pa, and set a High Negative Alarm at -30Pa. The Negative alarms will be used when in Negative Room Mode.

6 Applications

• Room pressure	• Clean rooms
• Flow measurement	• VAV Boxes
• Static pressure	• Alarm applications
• Computer centres	• Material handling
• Vacuum systems	• Cabinet pressure
• Vehicles	• Instruments
• Laboratories	• Industry
• Hospitals	• Shipping
• Green houses	• Chicken hatcheries
• Transport monitoring	

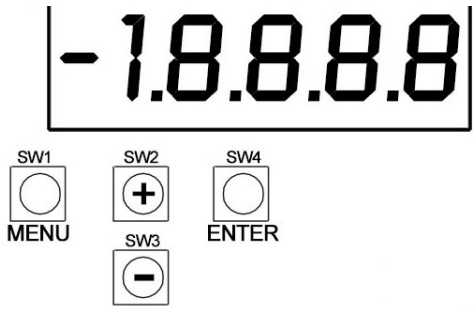
Contact us if you have questions regarding if our products can work in your application.

support@psidac.com

7 Menu-system

Push buttons:

SW1 Menu,
SW2 + Up in the menu
SW3 - Down in the menu
SW4 Enter



General Setup info: For setup press the **Menu** button, ConF is displayed, press **Enter** button to access this menu option. Select the desired menu value with the **Enter** button. Press **Enter** to accept. Then press **Menu** until all menu items have been cycled through.

Function: All settings are done with the help of the display and buttons. During normal operation the display shows the actual value.

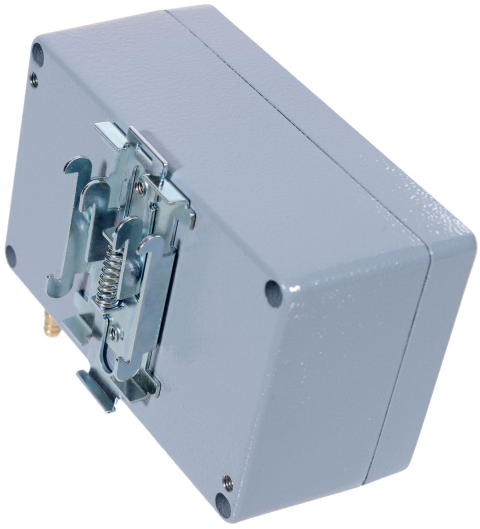
Configuration **1: ConF**	**Unit**	**PASC**, **nnb** (mbar), **inch** (InchH2O), **nn-S** (m/s), **FPnn** (fpm), **L-S**, **CFnn** (cfm), **ACPH.** (unit for display & modbus)
	bidr	**On**/**OFF** Switches the sensor from Bi to Uni directional
	ArEA	Duct area for flow units (**0.031** m2 = 200mm diam), or room volume m^3 for ACPH.
	cFAc	Flowstation K-factor ie **0.772**, toggles actual reading
	droo	Room mode select, **PoS**/**nEG** (Positive/Negative), **SERU**/**OPEn** (Service mode/Door Open)
	Addr	**5** Address default
	bAUd	**38400** Baud rate
	StoP	**1/2** Stop bits
	PArt	Parity: **Odd**, **nonE**, **EUEn**
Alarm settings **2: LArn**	**H-LA**	High alarm - Positive room mode
	L-LA	Low alarm - Positive room mode
	ALdl	Alarm delay – MM.SS - Positive room mode
	rFnc	Relay function, normal or inverted (if relay option is ordered)
	HLAS	High Alarm - Negative room mode
	LLAS	Low Alarm - Negative room mode
	ALdS	Alarm delay - MM.SS - Negative room mode
	drdL	Door open Alarm delay (Alarm if door is open to long)
	StdL	Start delay (boot time delay after power outage)
	rEtd	Return delay (extend door open switch, after door is closed)
	ALAA	Alarms **On**/**OFF**, activate/deactivate all alarms.
Calibration **3: Cal**	**OFFS**	Zero Calibration
	SPAn	* Span Calibration.
	SPAU	* Adjustment of analogue volt signal, see section 10
	SPAI	* Adjustment of analogue mA signal, see section 10
	rELd	* Reload factory setting. Resets all back to factory default incl range, analogue out etc. Do a OFFS zero calibration after a reload.
	CALt**	** Incr, 24h,6h,1h, 30min, 15min, how often the calibration will be done. The Incr selection gives a programmed preset cycle time of: 10, 20, 40, 80 min, then every 6 hour.
		* is a Advanced cal menu, se below. ** Only available on sensors with auto zero function (Z)
Output config **4: OUtS**	**FdSP**	Display filter damping
	FAnG	Analog filter damping
	dir	**Norn**/**InU** Normal 0-10 or Inverted signal out 10-0.
	OUtU	**0-5**, **0-10**, **1-10**, **2-10**, **0-1** volt
	OUtI	**4-20** mA, **0-20** mA
	rAnG	Change range in steps of 1 ***
	HI d	100% - Limit analogue max output in %
	Lo d	0% - Limit Min out in %
	FUnc	**PASC**, **nnb** (mbar), **inch** (InchH2O), **nn-S** (m/s), **FPnn** (fpm), **L-S**, **CFnn** (cfm), **ACPH**. (unit for analogue out)

*For **advanced** cal menu: Start in normal viewing mode (read current value), then press and hold the **+** and **Enter** button for about 5 seconds (display shows - - - -, then ccch and you release buttons). You will se SPAn. You are now in the Cal menu with advanced options available.

*** **Range**: Ranges can be freely modified to suit your need in steps of 1Pa or 0.001 inch/H2O. Select with +/- buttons, press Enter to save. Also see section 13.

8 General installation instructions

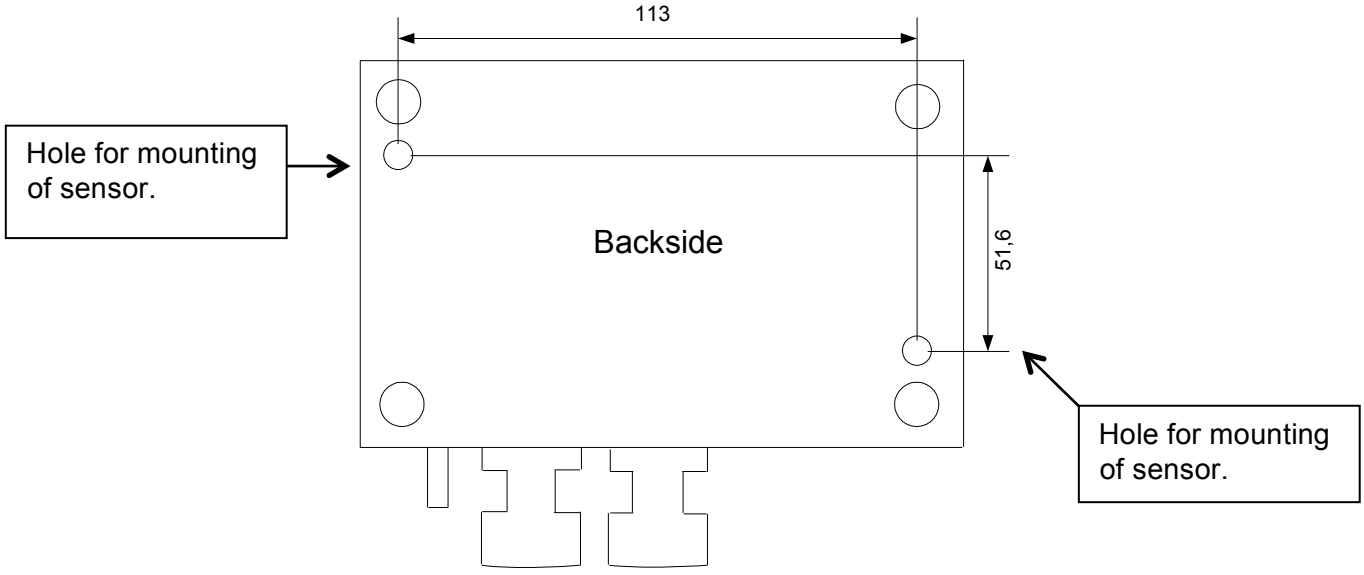
DIN-rail installation
If the 6283 v2 transducer was ordered with the optional DIN rail mount, follow these instructions:



To release, on top of the sensor there is a visual lever sticking up. Pull it up (with a flat screw driver) to unlock while pulling the sensor upper part out to unhook it.

To mount it on the DIN rail, you just simply hook the mounts on to the DIN rail bottom first, and push upper end on until it clicks in place. You can lift the top lever (with a flat screw driver) to help the locking in place.

Standard chassi (no DIN rail mount)
Install the transmitter on a stable surface, vertical or horizontal. On the back of the transmitter there are two holes going through, to mount on wall or wire ladder junction box plates. Connect the power supply and signal wires. Use maximum 1.5 mm^2 cables. See wiring diagram on last page. Connect hoses. The hose with the higher pressure to the port marked with a + and the one with lower pressure to the port marked with Ref.



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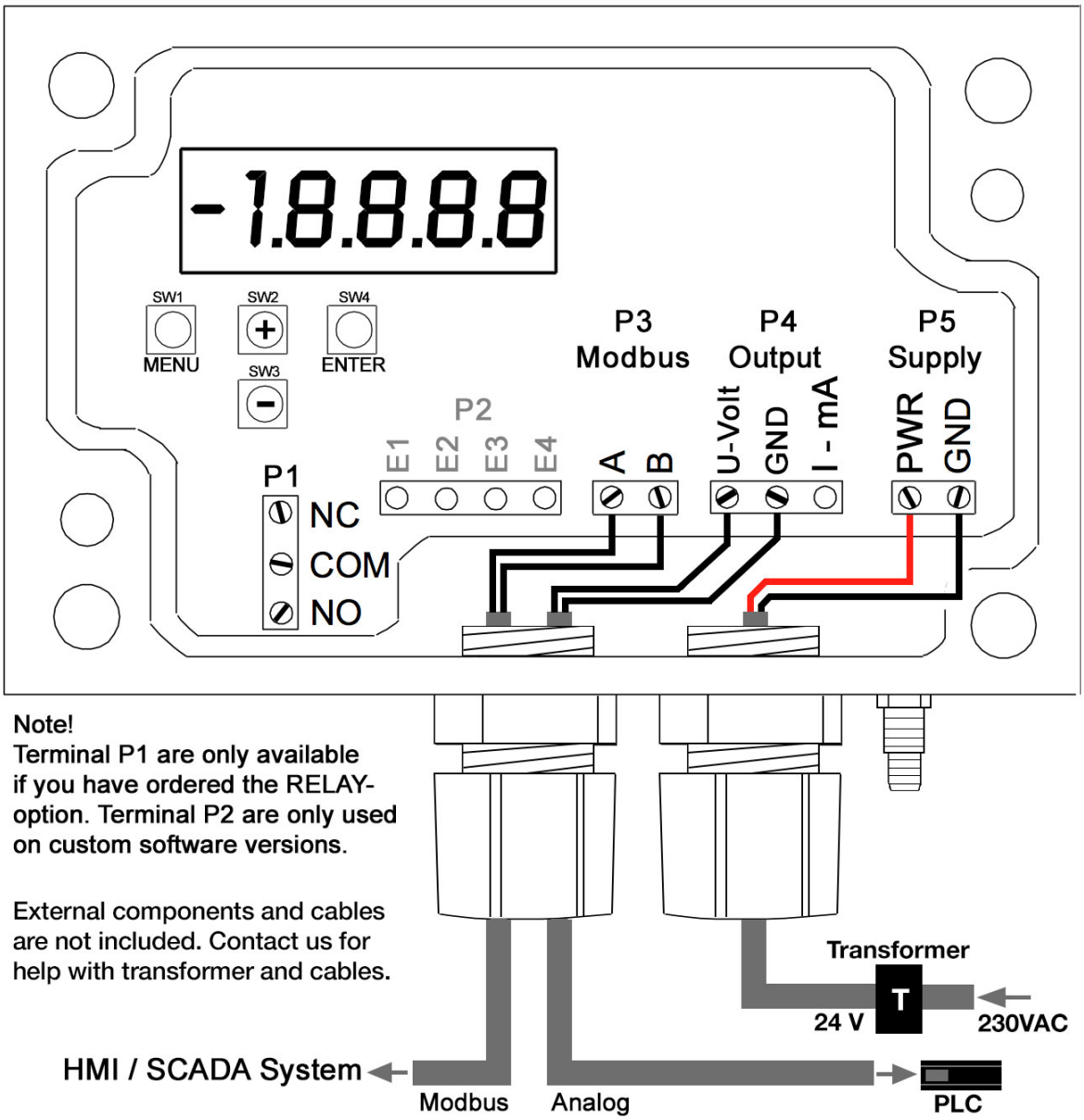
9 Wiring



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10 Calibration

Due to the special technique used in this instrument the instrument has a extremely low drift typical value is less than 1 Pa per year. But if you need to calibrate follow these steps.

ZERO cailbration.
Press Menu button until CAL is displayed, select Enter. Select OFFS with Enter. Press the – button until 0 is displayed then press the Enter button to confirm and save the new zero calibration.

SPAN calibration.
Normally no need to perform. But if you want to do a span calibration you need a good reference instrument and a very stable pressure source. That are able to go up near to max senor range in pressure. If you have that, connect your reference instrument in parallel with the ports of the FlowGuard. Press Menu button until CAL is displayed, press Enter. Select SPAN and select Enter. Adjust the unit with the +/- buttons until you have the same value on both instrument, then press the Enter button to confirm and save.

SPAU / SPAI analogue out adjustment
Connect a multi meter to the analogue out (volt parallel or ampere in series) to measure the signal out. Enter SPAU or SPAI to adjust (+ / - buttons) the max range analogue output level. Press select to save new max out analogue level.

11 Maintenance

FlowGuard has by its selection of pressure transmitter and design minimal need of maintenance. Cleaning, when necessary wipe of and clean with some non-abrasive cleaner. If you have a connected duct-Flowstation it can depending of model and location need cleaning.

Warning! Remove both tubes between duct-flowstation and the FlowGuard sensor while cleaning flowstations.

Cleaning the flowstation can be done by removing the flowstation from the duct and cleaning it, and by using compressed air and blowing through the holes. If the flowstation can handle detergents squirt inside the transmitter and the use compressed air to blow it clean. This is of course assuming its ok to do in the particulate installation. Make sure all detergents are removed from the inside of the flowstation to assure that no fluid or dirt is entering the sensor. It's also a good time to check the zero of the instrument and when needed zero calibrate the instrument.

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12 Product specification *

Power supply	24 VAC/DC (min 18V-max 45V)
Power consumption	Max 2,5W (max 100 mA) @ 24 VDC
Sensor Range	See section 13.
Output Volt	Selectable 0-1, 0-5, 0-10, 1-10, 2-10V
Output Current	Selectable 4-20mA or 0-20mA
Relay (optional)	Load max 1A 24V
Resolution	12 bit digital output
Total error	± 0,5 pa typical (500/ B250 Pa sensor)
Stability	Typ. >1 Pa.(1 year)
Time constant	0.05 - 20 seconds
Pressure connector	Dual diameters Dy 5 mm / ¼”
Media	Air / Dry gas
Communication	Modbus RTU, 2-wire RS485
Operating temp**	-10°C… +60°C **
Storage Temp	-40°C… +60°C
Housing and IP rating	Aluminium, IP 65 with mounted seal
Mounting	Standard chassi, or with optional DIN rail mounts on the back (35mm rail).
Dimensions	125 x 90 x 60 mm.
Weight	530 gram

* Features & specifications are subject to change without notice.

** Temp range operation for model with AutoZero is -5 to 50°C. Contact us for a cold operation solution if needed.

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13 Pressure sensor Specification*

Sensor models	Max ranges:
6283 B 0025	± 25 Pa
6283 B 0065	± 65 Pa
6283 B 0250	± 250 Pa
6283 B 0500	± 500 Pa
6283 B 1250	±1250 Pa
6283 B 2500	± 2500 Pa
6283 U 0500	0-500 Pa
6283 U 2500	0-2500 Pa
6283 T 0250	0-250 Pa
Output Range	Range is selectable in steps of 1Pa or 0.001 inch/H2O.

* **Other ranges and options available** (contact us for information). All sensors have temperature compensation. Specification subject to change without notice.

14 Order key

Order key:

Model no.	Sensor	Range	Options	Mount	Special
6283	**B**	**0250**	**Zxx**	**D**	**xxx**
4 pos	1 pos	4 pos	3 pos	1 pos	3 pos
	B / T / U	0065	Z / D / R	S/D	Special versions
	B=Biderect +/-	**0250**	Z=AutoZero	S=Standard chassi	
	T=Thermal	0500	D=Display lid	D=With DIN rail 35mm mount	
	U=Unidirect	1250	R=Relay		
		2500	x=no option selected		

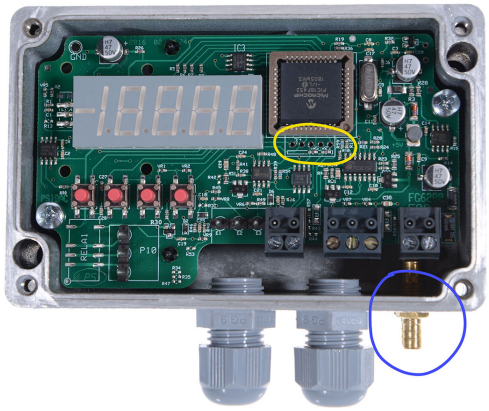
Example:
6283B0250ZxxD
Model 6283 (6283), Bidirectional sensor (B) range ± 250 Pa (0250), with autocalibration - autozero (Zxx) option, and with a DIN rail mount (D), no special.

Contact us if you need help with ordering and functions etc:
support@psidac.com

15 6283 Identification

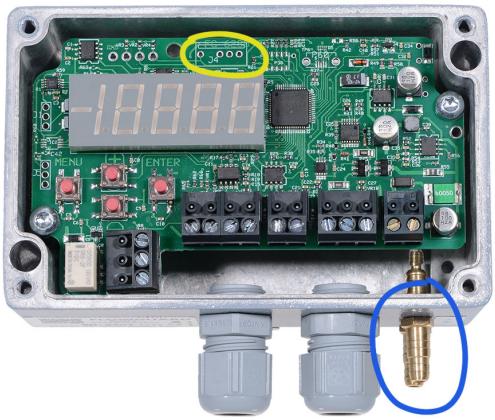
How to indentify an older version of the FlowGuard 6283 vs the new 6283 v2:

Old 6283 PCB



The old PCB have 5 holes in a row under the processor (yellow circle), and the tube connectors are made for only one size of tubing (blue circle).

New 6283 v2 PCB



The new PCB have the row of holes placed above the display (J4). The menu buttons in a different order. And the tube connectors are made for two sizes of tubing (blue circle).

Contact us if you need help with identifying your FlowGuard product:
support@psidac.com