PM8 - Purge Module

8-Channel Valve Module for Purging of Pressure Taps

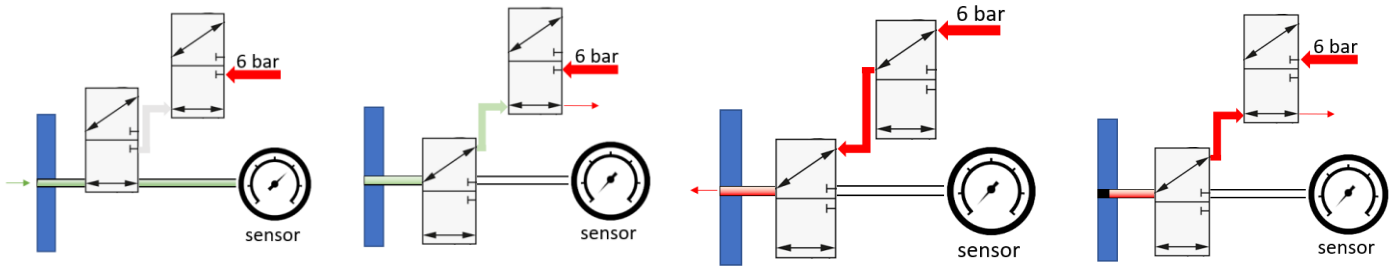
- **Purge pressure up to 6 bar (87 PSI)**
- Flexible trigger options: Manual, digital, RS232, RS485, CAN
- Sensor protection by automatic pressure relieve
- Simple installation

General Description

In many pressure measurement applications it is necessary to clean the pressure ports from dust or blockage.
The PM8 Purge Module is designed to be connected between sensors and pressure taps and makes it possible to apply purge pressure to the measurement openings.
The internal valves are controlled by a micro-controller. When a purge operation is triggered, first the sensors are disconnected from the pressure taps. After that, the internal high pressure valve is activated and routes the purge pressure to the taps.
To avoid a pressure kickback into the sensors in case of a permanent blockage of the measurement line, the high pressure valve is closed and the purge pressure is relieved before the sensors are reconnected to the measurement lines. This protects the sensors from overpressure due to a possible purge pressure kickback.

Operation Modes

In normal operation (A), the pressure that is to be measured (on the left side of the figures) is routed directly to the sensor. When the purge mode gets triggered, the sensor is disconnected from the pressure port first (B). After 100ms the purge valve connects the purge pressure to the measurement tap and with that air gets blown out, cleaning the measurement line. At the end of the purge operation the purge pressure gets disconnected and the remaining pressure in the measurement line is relieved (D). This is an important feature to protect the sensor from overpressure which can occur when the measurement line is permanently blocked and the purge pressure can't escape through the measurement opening.
After the pressure relieve phase the sensor is reconnected to the measurement line again (A).



A) Normal operation B) Pressure relieve C) Purge operation D) Pressure relieve

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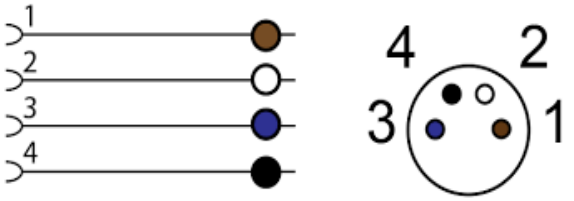
Technical Specifications

Power supply	
Supply voltage	8-32V DC
Max. current	1A
Pneumatics	
Number of channels	8
Purge pressure valve	1
Max. purge pressure	6 bar (87 PSI)
Pneumatic connectors sensors	2mm Push-Pull
Pneumatic connectors purge	3mm Push-Pull
Electric Connection	
Power and Interface	M8 sensor/actuator connector 4-pin
Standard interface	USB (USB-A)
Interfaces (optional)	CAN / RS232 / RS485 / Digital
Digital trigger (optional)	Trigger level 5-24V DC
Mechanics	
Size (W x H x L)	Approx. 130 x 50 x 115 mm

M8 - CAN Pinout

Pin	Function	Cable color
1	+ Supply	brown
2	CAN low	white
3	- Supply (GND)	blue
4	CAN high	black



M8 – RS232 Pinout

Pin	Function	Cable color
1	+ Supply	brown
2	RS232-RX	white
3	- Supply (GND)	blue
4	RS232-TX	black

M8 – RS485 Pinout

Pin	Function	Cable color
1	+ Supply	brown
2	RS485-A	white
3	- Supply (GND)	blue
4	RS485-B	black

M8 – Digital Pinout

Pin	Function	Cable color
1	+ Supply	brown
2	Trigger +	white
3	- Supply (GND)	blue
4	Trigger -	black

Serial interface

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Command	Function	Answer
*IDN?	Read device ID	#PM8 VERSION 1.0 #SN31xxx
PURGE	Start standard purge process (3 sec)	#Purge #Purge done
PURGE n	Start purge process with n sec purge time	#Purge #Purge done
CAN_ID x	Set CAN-ID	#OK
CAN_IT x	Set the frame format x = 0: Normal (11bit, CAN 2.0A) x = 1: Extended (23bit, CAN 2.0B)	#OK
CAN_SPEED x	x=125: 125 kBaud x=250: 250 kBaud x=500: 500 kBaud x=1000: 1 MBaud	#OK
CAN?	Request CAN configuration	#ID:0x[...]_Speed:[baud]_IT:[0,1]

Each command is terminated by a line break (CR, LF or CR+LF). For USB-operation make sure that “DTR” is asserted.

CAN-Bus interface

CAN ID	Function
0x10	Send “0” to start the standard purge process
0x10	Send n in data[0] to start the purge process with n sec purge time

Typical application

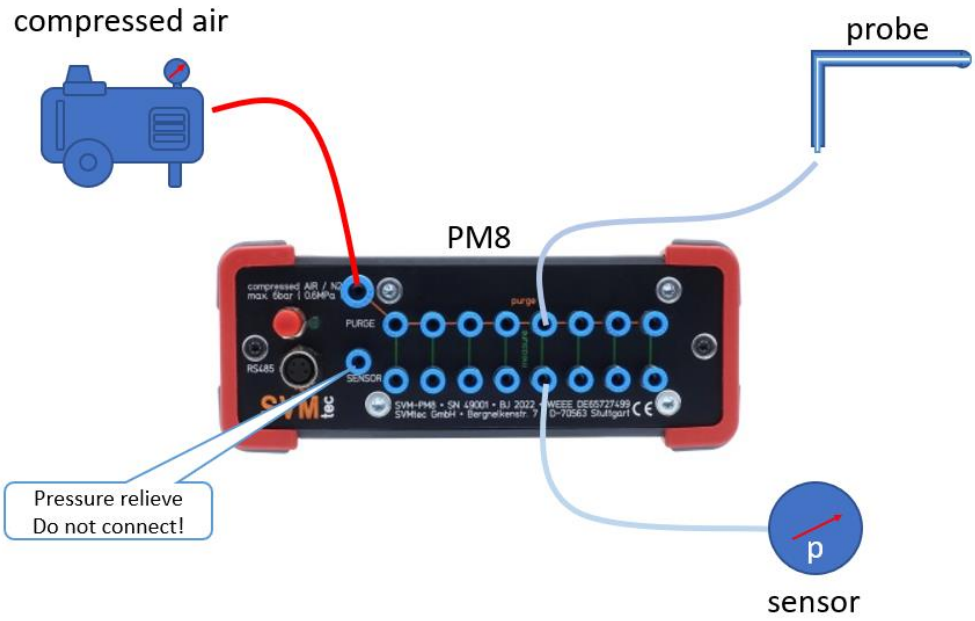

Figure 1: Application

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