PRESYS®

Digital Pressure Module MPYA

Technical Manual

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1.0 - Introduction

1.1 - General Description

The External Digital Pressure Module has reduced dimensions, is compact and used in conjunction with the Advanced Line calibrators for pressure reading, such as the MCS-XV or PCON Kompressor-Y18.

Thus, MPYA allows you to expand the number of pressure ranges available on each calibrator, in addition to sharing its automatic calibration and documentation resources.

Its technical characteristics add performance levels only comparable to laboratory standards, with an accuracy of 0.025% of the full scale. It can be supplied with one, two, three or four pressure taps. Thus, in a single module, you can have different pressure ranges, for example, vacuum, 0 to 100 psi, 0 to 1000 psi and 0 to 3000 psi or any other combination of the available ranges.

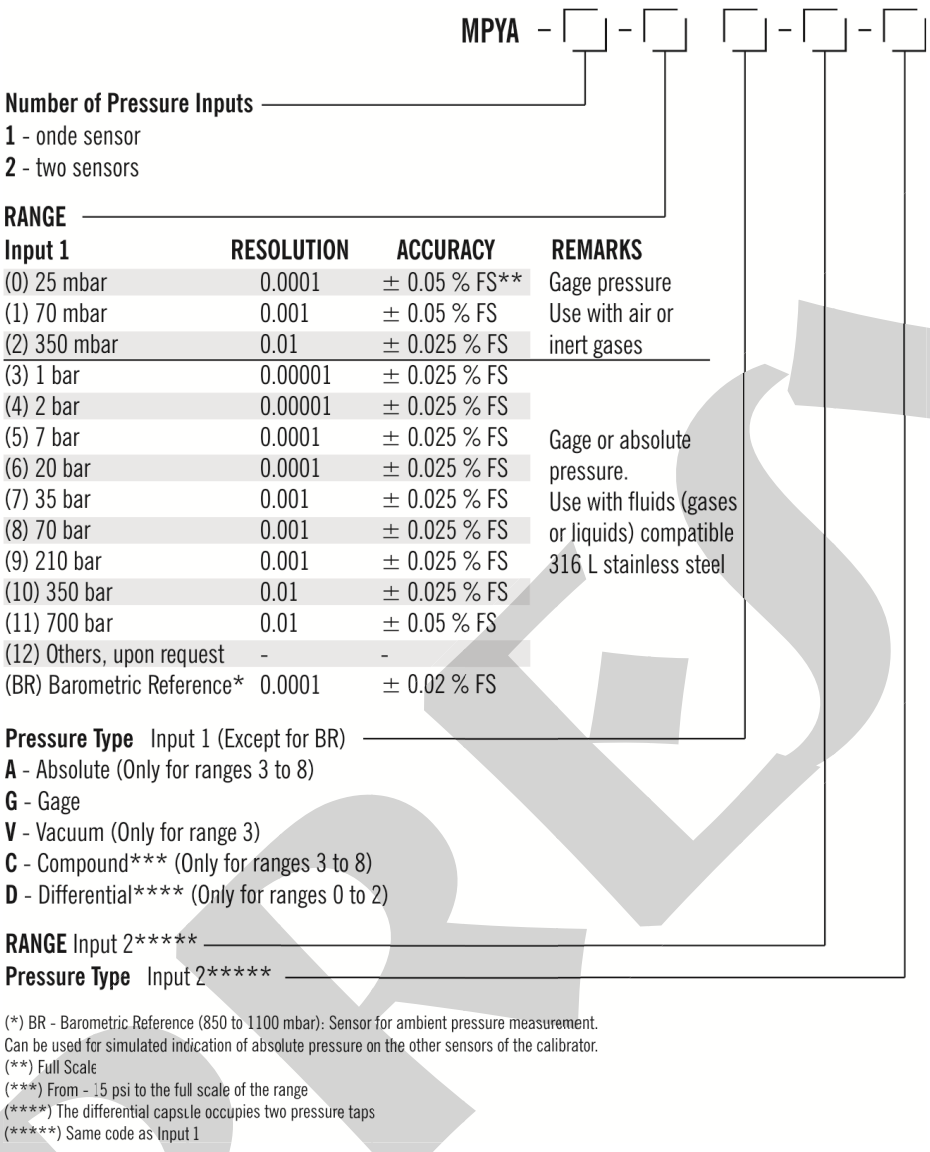
It can also be purchased with a certain number of sensor capsules and then other capsules can be added.

Enables use in stand alone mode when connected to a computer for pressure monitoring and data acquisition. It is connected to the calibrator or to the computer via USB, eliminating the need for external power.

The module can be calibrated separately and stores the calibration parameters in its internal memory, which allows its use with different calibrators.

1.2 - Technical Specifications

Order Code



(*) BR - Barometric Reference (850 to 1100 mbar): Sensor for ambient pressure measurement. Can be used for simulated indication of absolute pressure on the other sensors of the calibrator.
(**) Full Scale
(***) From - 15 psi to the full scale of the range
(****) The differential capsule occupies two pressure taps
(*****) Same code as Input 1

Example of Order Code:

MPYA-2-2-M-3-V

Defines a module with two inputs, with input 1 for 0 to 5 psi gauge pressure, input 2 for 0 to 15 psi vacuum. Input 1 allows use with air or inert gases only and input 2 is for use with 316L stainless steel compatible fluids.

Engineering Units: psi, atm, kgf/cm^2, inmH_2O, mH_2O, cmH_2O, mmH_2O, in**Hg**, cmHg, mmHg, bar, mbar, Pa, kPa and torr, selected in the calibrator.

Pneumatic Connection: 1/4" NPTF (Note: 1/8" NPTF only for the range 0 - 10,000 psi).

Overpressure: up to twice the value of full scale pressure (to sensors up to 5,000 psi).

Operating Ambient: 0 to 50 ° C ambient temperature and 90 % maximum relative humidity.

Dimensions (HxWxD): 95 mm x 144 mm x 72 mm.

Weight: 1.0 kg nominal.

Included Items: carrying case, technical manual and USB cable.

Warranty: 1 year.

2.0 - Operation

2.1 - Parts Identifications

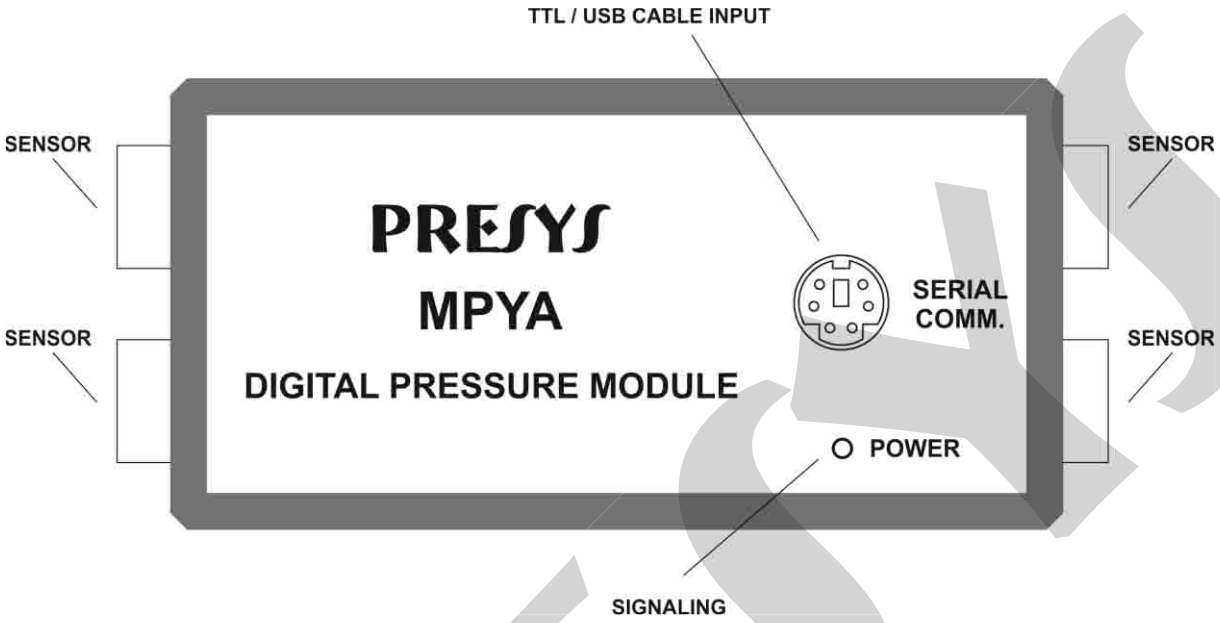


Fig. 01 – Parts Identifications

2.2 - Dimensional Drawing

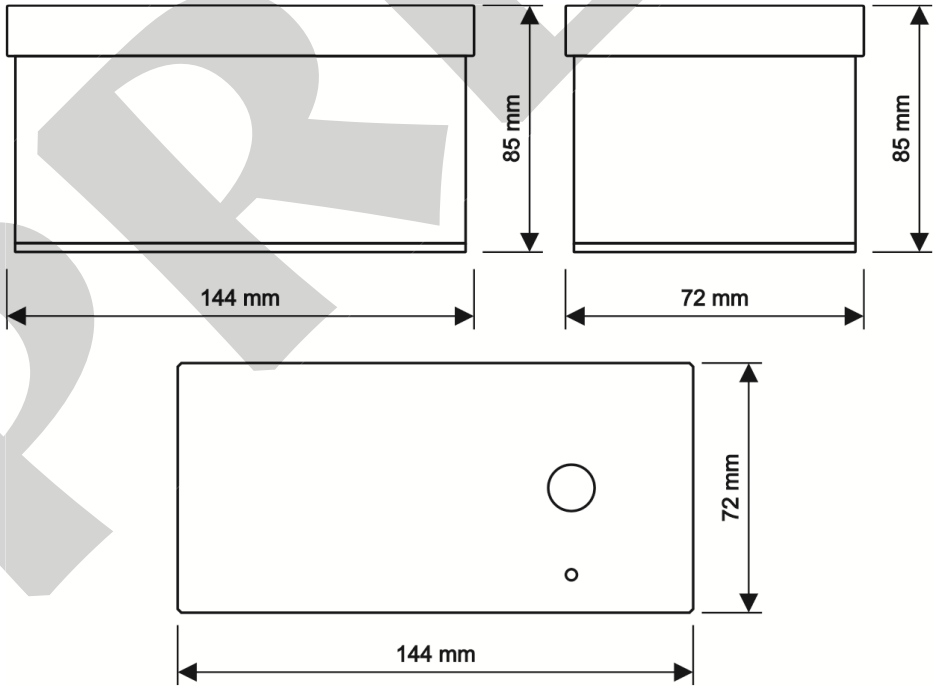


Fig. 02 – Dimensional

2.3 - Connecting the MPYA Pressure Module to the PCON

Connect the module to the calibrator using the cable provided with the pressure module, as shown below.

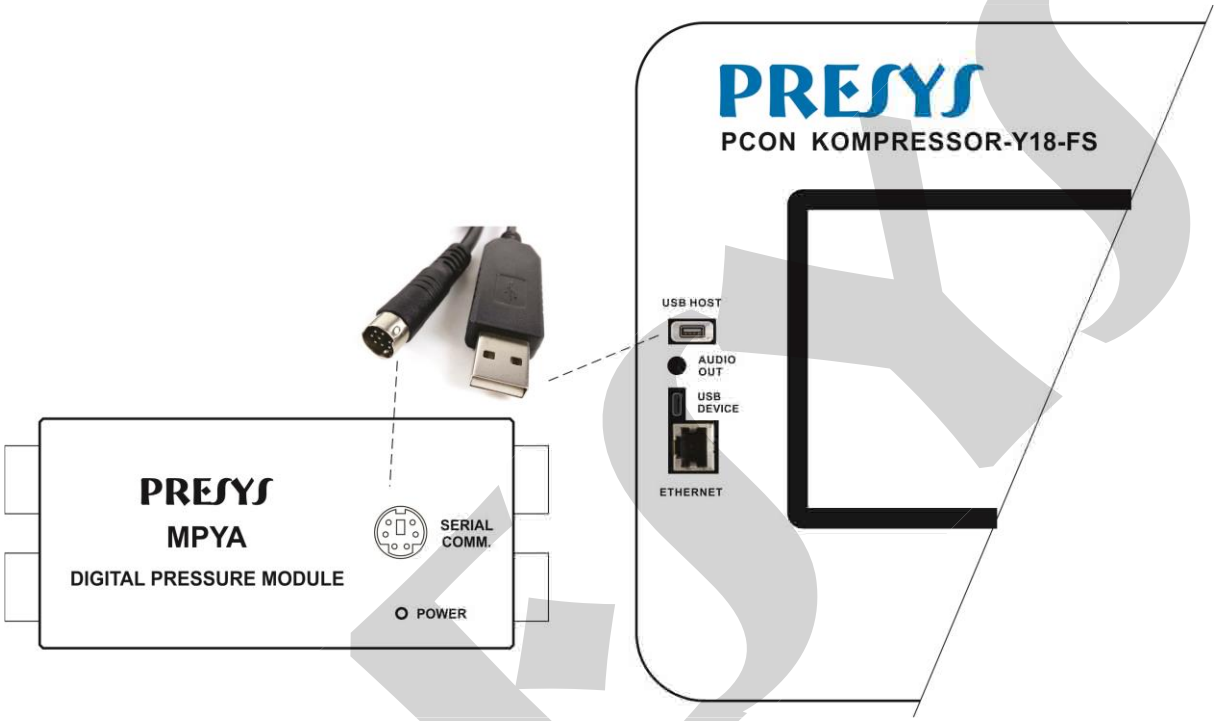


Fig. 03 – Connecting the MPYA Pressure Module to the PCON

2.4 - Connecting the MPYA Pressure Module to the MCS-XV

Connect the module to the calibrator using the cable provided with the pressure module, as shown below.

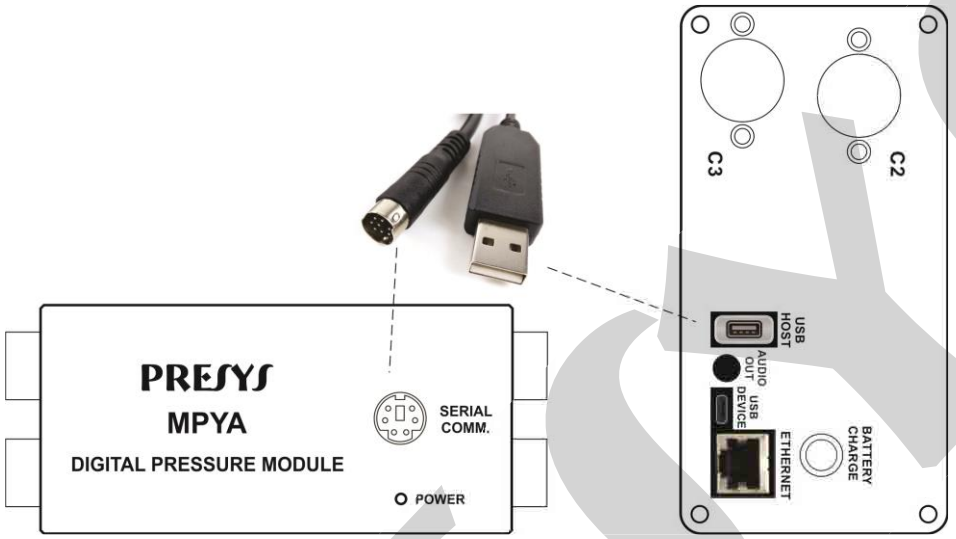


Fig. 04 – Connecting the MPYA Pressure Module to the MCS-XV

2.5 - Using MPYA

The Pressure Module is supplied with a USB adapter cable. Through this cable, the module is powered by the calibrator, eliminating the need for a battery or external power supply.

The MPYA is plug and play, simply connect the module to the USB Host port of the calibrator so that it is automatically recognized.

Connect the USB cable from the MPYA to the calibrator. The **MPYA EXT** option will be displayed on the Operation screen. To activate MPYA, click on **MPYA EXT** and wait a few seconds. **EXT** will appear next to the current pressure unit. In **MEASURE** mode, it will only display the measurements of the MPYA Module.

Fig. 05 – Connected MPYA

After activating MPYA, remember to reset the pressure; To do this, go to the **RESET PRESS** menu. The two pressure sensors (External and Internal) will be reset to ensure the correct pressure reading.

In **CONTROL** mode, it will indicate the measurements of the MPYA Module and the internal pressure sensor (PCON or MCS-XV). In this mode, the calibrator will be using the internal sensor indication to control the pressure.

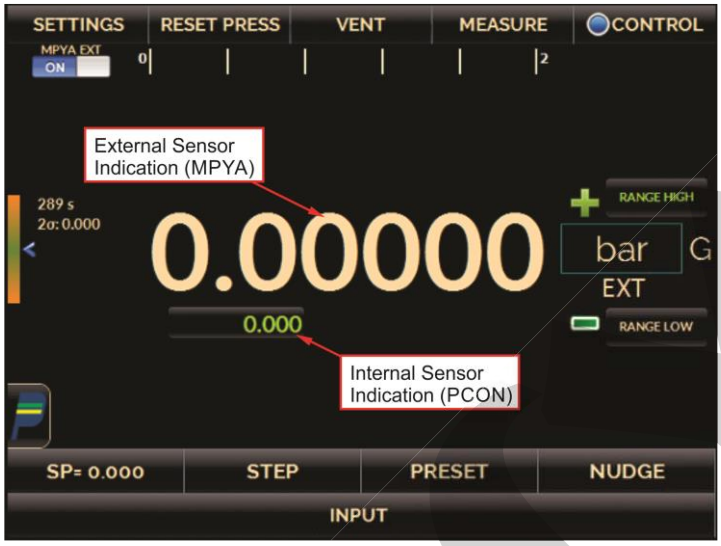


Fig. 06 – Control Mode

For the MPYA with barometric reference sensor, the **RANGE** tab will show the pressure mode option: **ABS (Absolute)** and **GAUGE**. Selecting the **ABS** mode, the calibrator will use the MPYA Module ambient pressure indication to show as absolute pressure indication / control.

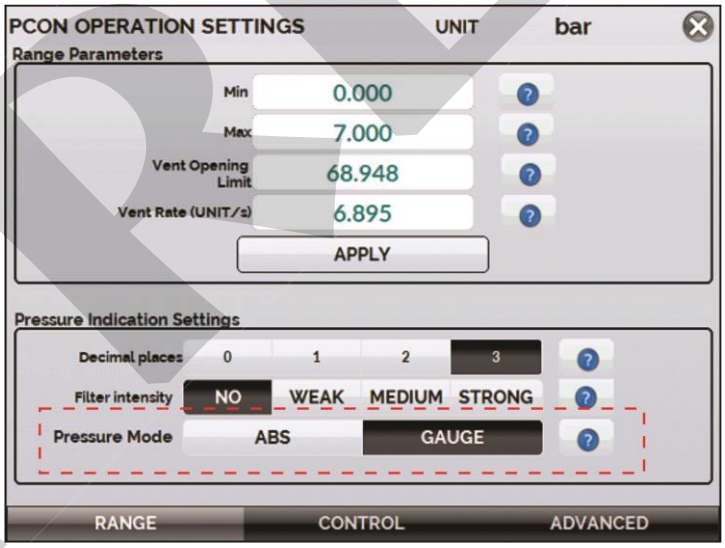


Fig. 07 – Settings

REPO MODE

The calibrator also allows the use of external reading (MPYA) to control the pressure. To activate this function, access the **SETTINGS** menu on the **CONTROL** tab and activate the **REPO WITH MPYA** function.

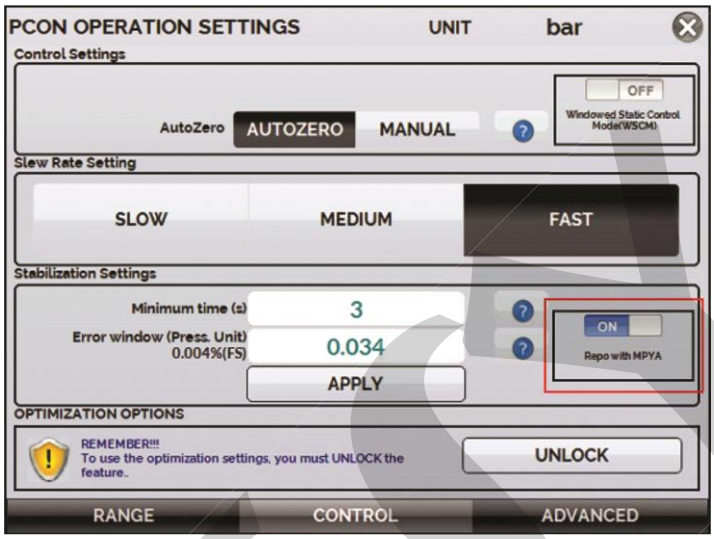


Fig. 08 – Settings

IMPORTANT: ENABLING THE REPO WITH MPYA FUNCTION DOES NOT GUARANTEE GREATER RESOLUTION IN CONTROL OR MORE STABILITY, ONLY THE SETPOINT CORRECTION BY EXTERNAL READING (MPYA).

When the **REPO MODE** is activated, the external indication will change color. When disabled, the internal indication will change color.

Fig. 09 – REPO Mode

2.6 - Pressure Module DUO

If your Pressure Module is equipped with two capsules, the selection of the active capsule can be made through the **PARAMETERS** menu.

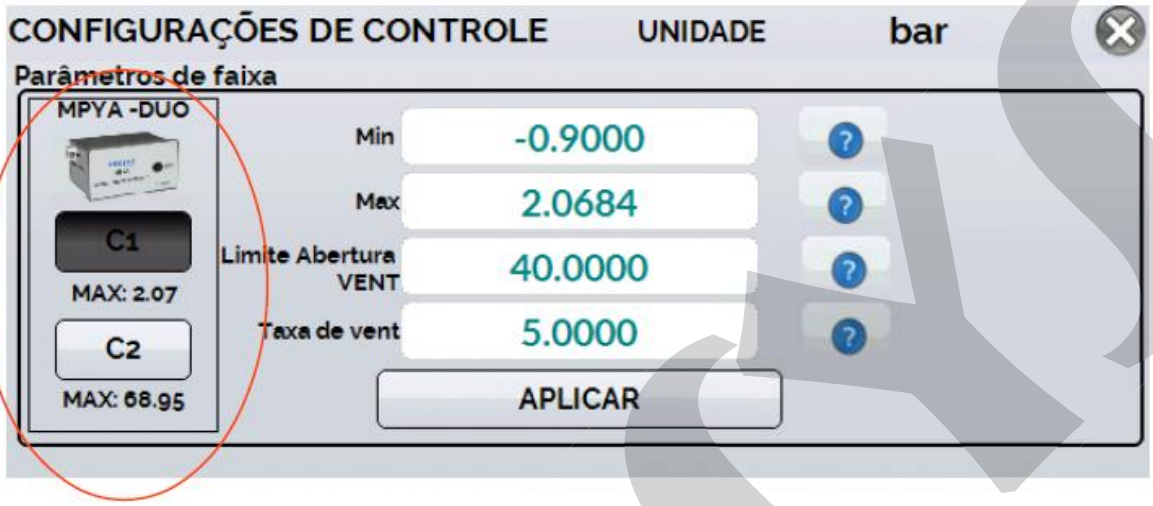


Fig. 10 – MPYA DUO

REMEMBER: ALWAYS DISABLE THE MPYA MODULE BEFORE CHANGING THE ACTIVE CAPSULE, OTHERWISE THE MODULE MAY INTERRUPT READING. ALWAYS BE SURE TO CHECK THAT THERE IS NO PRESSURE ON THE HOSES, CONNECTIONS, ETC.

FOR PREVENTION, ONLY PERFORM CHANGES WITH THE ACTIVE VENT MODE.

*** When disconnecting the PCON, the USB cable must always be reconnected to be recognized again.**

3.0 – Adjustment of Pressure

Warning: Only enter the following option after your perfect understanding. Otherwise, it may be necessary to return the pressure module to the factory to be readjusted.

Follow the procedure to access the adjustment ranges (option ADJ of the calibrator) and select the option Press in the adjustment of the inputs (IN). The calibrator will show: