

**OPEN FRAME CONTROLLER**  
**MODULAR PROPORTIONAL**  
**REGULATOR**



# OPEN FRAME CONTROLLER FOR INDUSTRY 4.0



The new "Open Frame Controller" system is a platform for providing closed loop control of flow, pressure and position and is suitable for Industry 4.0 applications. The system is composed of two base modules: Master and Slave that individually may be combined following the application needs.

## Base functions

### Flow control by using pressure sensors and calibrated orifices

- The Master module used alone allows the creation of a two-way flow control valve in a closed loop configuration.
- The use of the Master-Slave combination allows the creation of a three-way flow control valve with the same performance.

### Pressure control with a pressure sensor

- The Master module used alone allows the creation of two-way closed-loop pressure control.
- The use of the Master-Slave combination allows a three-way closed-loop pressure control.

### Closed-loop position control for pneumatic cylinders with a position feedback system

- The use of the Master-Slave combination allows a closed loop position control.

## System Solutions

All base functions may be combined to application solutions and communicate amongst each other via CANopen.

## BENEFITS



**Closed loop control of flow, pressure and position**



**Customised, turnkey solutions**



**Serial communication**



**Modular**

## Applications

The Open Frame Controller can be easily configured to meet specific application needs, to provide the most efficient, turnkey solutions, thus reducing assembly times and system complexity. The different Master and Slave modules can be combined and driven through simple serial communications, making the control of complex applications easier.

Typical applications could include the mixing of different gases, piloting different pressures in different parts of the machine, or the positioning of a pneumatic cylinder through a single control signal.



### ANESTHESIA DEVICES

Control and mixing of gases on three channels and nebulisation on two channels, all integrated in one system, controlled in CANopen.



### LASER CUTTING MACHINES

High precision pressure control to monitor the position of the laser reflection mirror.



### BLOW MOULDING MACHINES

Precise flow control for blow moulding machines or plastic extrusion machines.

### DRINKS DISPENSERS

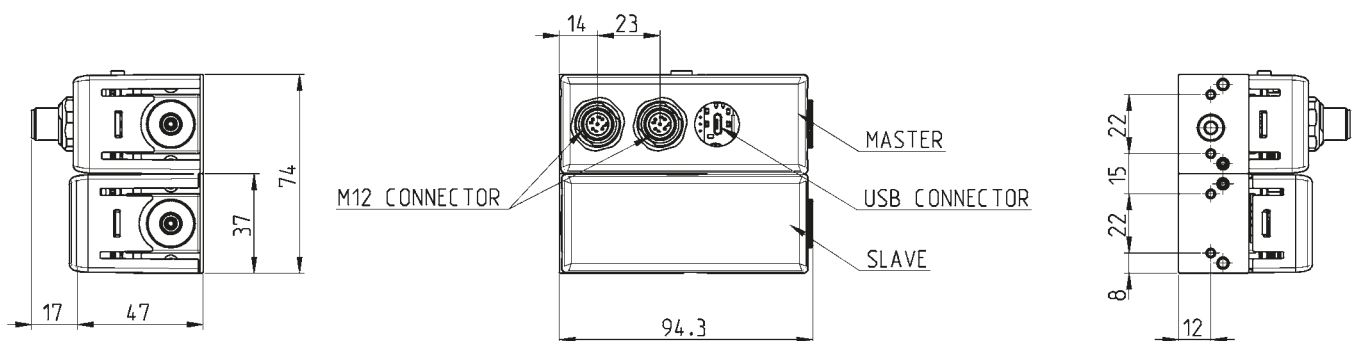
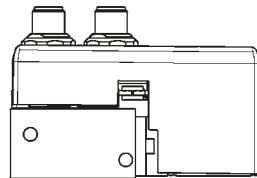
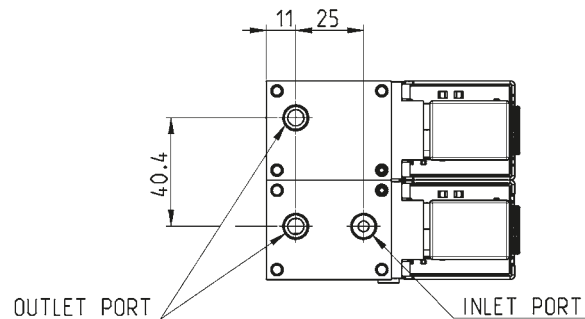
Combination of pressure control, fluid pumping and pressure control for carbon dioxide lines.



## General data

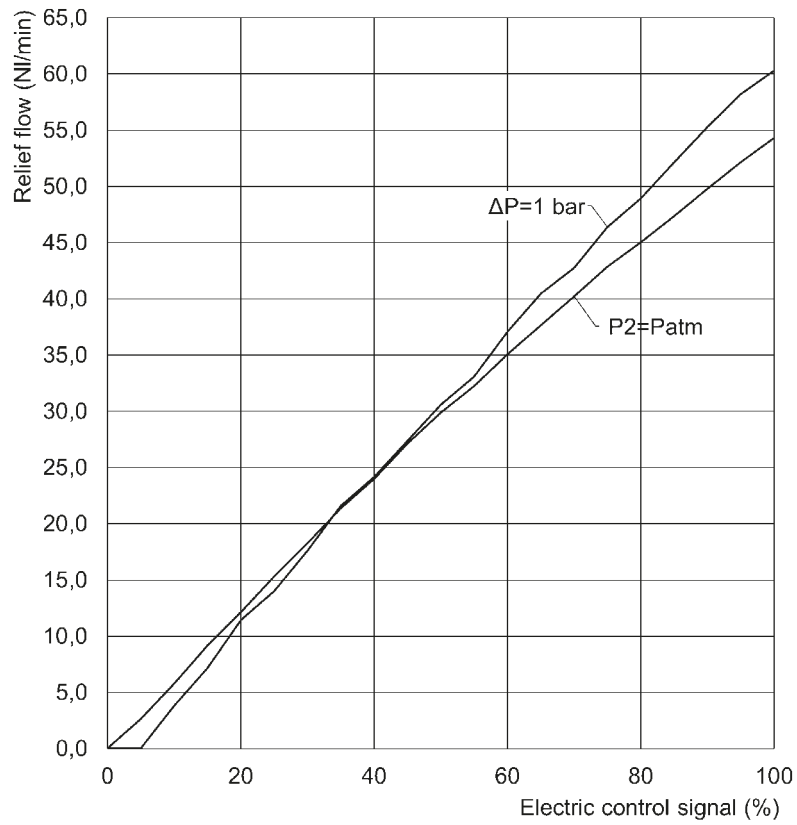
<b>Construction</b>	modular, compact, directly operated
<b>Number of ways</b>	2/3-way 3/3-way Parallel
<b>Flow</b>	90 Nl/min 180 Nl/min with parallel valve
<b>Media</b>	compressed air, inert gases and oxygen. Filtering according to ISO 8573-1 class 7.4.4
<b>Supply pressure</b>	-1 ÷ 10 bar
<b>Operating pressure</b>	-1 ÷ 10 bar
<b>Environmental pressure</b>	-5 + 60°C (with the dew point of the fluid lower than 2°C at the min. working temperature)
<b>Ports</b>	G1/8
<b>Materials</b>	seals: FKM
<b>Mounting position</b>	any position
<b>Analogical input</b>	0-10 V or 4-20 mA
<b>Analogical output</b>	0-10 V
<b>Supply voltage</b>	24V DC +/-10%
<b>Current absorbed</b>	0,3 A (Master module) 0,3 A (Slave module)
<b>Control interface</b>	CANopen CiA 301 RS485, RS232 IO-Link (connection type B)
<b>Protection class</b>	IP20
<b>Linearity</b>	< 2%
<b>Hysteresis</b>	< 2%
<b>Repeatability</b>	± 0,5% FS
<b>Resolution: pressure control</b>	±0,1% FS
<b>Resolution: flow control</b>	±1% FS
<b>PWM frequency</b>	1 kHz
<b>Weight</b>	300 g

## Dimensional characteristics

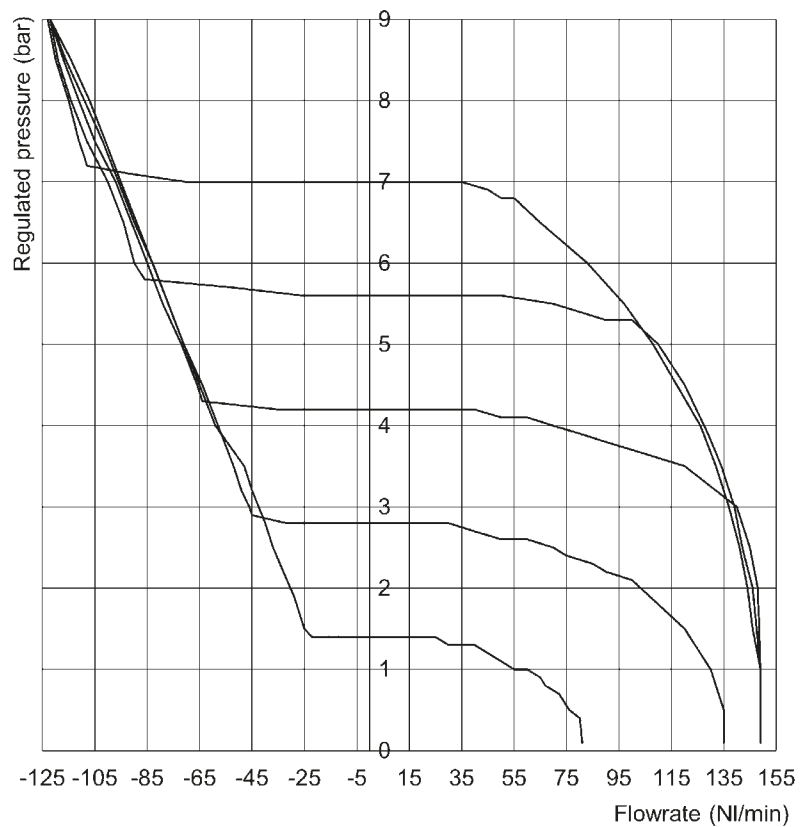


# Flow diagrams

## FLOW CONTROL



## PRESSURE REGULATION



## Contacts

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