



mecair BUS SYSTEM

MSC OUTPUT DEMAND CONTROLLER

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DESCRIPTION

The "BUS" System with **Master + Slave** was designed to control the cascade sequence of diaphragm valves for pulse-jet dust collectors. The **BUS** consists of a **Master Controller** (MSC) and one (or more) **Slave** cards (up to No. 20 Slave cards) wired to each other by a very simple three-wire gland cable (and not a special shielded cable) through three-pin sockets (without ground).

Note: Slave 10 (suitable for electrical wiring)
Slave 10 PR1/4" (suitable for pneumatic wiring)

The greater is the number of diaphragm valves to be controlled, the more convenient and cost effective becomes the system.

By using our system, already pre-wired, the end-user will have experience of time saving and job simplification, avoiding the use of a large quantity of multi-core electrical cable – which

implies laborious installation work. Technical specifications meet EEC Directives, their design being in accordance with European regulations in force (89/226 EEC and 93/69 EEC).

Upon request it is possible to supply the unit in accordance with the European Directive EC/94/9 ATEX, ATEX II 3D (zone 22).

The **Master Controller** (MSC) is the intelligent part of the system. It detects the differential pressure (ΔP) and enables the pulse and cleaning sequences to control the diaphragm valves located in the dust collector filter.

This controller is based on advanced microprocessor technology, well protected in a metal enclosure (IP65) provided with user-friendly touch pad and easy-to-read digital display.

Amongst the several functions, we can highlight the most important ones, which are:

- to control the correct working of the whole system
- to detect possible faults of connected solenoid valves
- to locate short circuits or power cut-off for connected solenoids
- to locate incorrect wiring of the system (connected valves)
- to show filter obstruction level readout by remote instrument (optional)

- to remotely monitor the header tank pressure (optional)

The Slave "carries out the orders" which are given by the **Master Controller**, switching to diaphragm valves the signals received by the main controller.

The Slave device is available in two convenient versions, suitable to meet all needs:

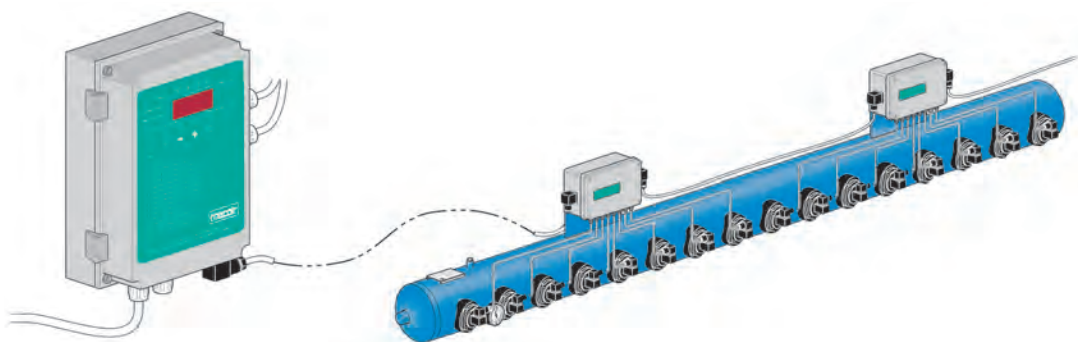
- Slave Cab, pre-wired and suitable for electrical connections of valves with solenoid pilots mounted
- Slave PR1/4", provided with remote solenoids in the enclosure and suitable for pneumatic connections between pilots and valves.

All Slave devices – as the Master Controller – are based on the same advanced microprocessor technology, and are mounted within a sturdy and well-protected (IP65) painted metal enclosure.

Hereunder are a few salient characteristics:

- Each Slave can control up to 10 diaphragm valves.
- A push button allows the manual control of all connected valves.
- Every output is provided with a dedicated LED, to identify the connected valves.

Please note: Any and all electrical wiring should be avoided when the



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header tank is located within the filter. That's why Mecair offers the Slave PR $\frac{1}{4}$ " with solenoid valves included within the same enclosure of the electronic circuits. Slave PR $\frac{1}{4}$ " can be easily installed outside the filter wall, while the pneumatic tubing provides the control of diaphragm valves fitted inside the filter.

MAIN FEATURES

- The MSC (Master and Slave) System controls the diaphragm valves mounted on dust collector filters, pulse-jet, whether they are bag filters or cartridge filters.
- Main controller – Master with display and menu, for easy selection and setting of parameters.
- Slave cards are modules of 10 outlets and up to a maximum of 20 slaves for a maximum of 200 valves.
- Slave units available with PR $\frac{1}{4}$ " remote pilots mounted within enclosure for pneumatic connections or stand-alone slave for standard electrical connections.
- 2 ΔP Set Points.
- Automatic regulation of cleaning based on level of ΔP in the filter.
- Easy selection – Manual or Automatic Mode.
- Automatic search of diaphragm valves connected.
- Shut Down Cleaning Function.
- Low Pressure Alarm.
- Remote Control.
- Alarms.
- Hour Counter.
- ΔP value remotely visualised by means of 4–20 ma signal (optional).

TECHNICAL CHARACTERISTICS	
Enclosure	Metal enclosure – powder coated – light grey
Protection rating	Master – IP65 Slave – IP65
Dimensions	Master – 250 x 175 x 90 mm Slave – 320 x 140 x 65 mm
Weight	Master – 1.95 kg Slave – 1.10 kg Slave PR $\frac{1}{4}$ " – 3.4 kg (10 pilots)
Connections	Screw-in terminals – max. 2.5 mm ² section
Temperature	Storage: –20°C/+80°C Working temp: –10°C/+50°C, with duty cycle (intermittent) 30%
Power inlet	Master inlet voltage: 115/230 V ($\pm 10\%$) – 50/60 Hz Slave outlet: 24 V DC max 20 W
Absorbed power	Total absorbed power: 35 VA – 230 V – with 6 slaves Total absorbed power: 50 VA – 230 V – with 10 slaves Total absorbed power: 70 VA – 230 V – with 20 slaves Master – 2.5 VA Slave – 1.5 VA
Relay	2 A – 250 V AC
Main fuse	500 mA – delayed for 115 V 260 mA – delayed for 230 V
Pulse time	0.01–3.00 sec.
Pause time	1–999 sec.
Pause time in automatic	1–999 sec.
Range ΔP positive	0.01–9.99 kPa
Range ΔP negative	–0.01––0.50 kPa
Shut-down cleaning cycles	0–99 cycles
Shut-down cleaning	Activated via external contact (normally open) free of power
Remote control	Activated via external contact (normally open) free of power
ΔP pre-coating	Activated via external contact (normally open) free of power
Hour counter	0–999.999 hours

