AS-i AirBoxes: Pneumatic modules for hazardous dust areas Ex II 3D.

Small, decentralised AS-i valve for use in zone 22 (non-conductive dusts).

- Modules with IP 65 for direct field use to the EU directive 94/9/EC annex VIII (ATEX).
- Connection to most of the usual AS-i masters, up to 31 modules per AS-i network.
- 4/2-way valves in monostable design, 8 mm Legris tube connections.
- Input / output supply via AS-i, additional 24 V not required.
- Quick device connection by means of standard M12 sockets.

Introduction

The standard AS-i bus system so far exclusively used in non-hazardous areas, can now also be used for zone 22 (non-conductive dusts).

The AS-i AirBoxes can be directly mounted in the corresponding environments. This eliminates the need for complex control cabinets with conventional wiring. The remaining AS-i system consisting of AS-i master, power supply, cable, etc. can be used unchanged.

To complete the system inductive position and capacitive level sensors are available from ifm electronic, also with category 3D.

Advantages:
- Easy wiring and set-up
- Up to 31 AirBoxes on one bus cable
- Status LEDS for local diagnosis
- No separate supply for the sensors and the integrated valves, they are supplied via the AS-i bus
- Rail or direct mounting using only two screws
- Sensor wires and pneumatic tubes feature a connector to ensure quick exchange if servicing is required
- Standardised AS-i system ensures compatibility and paves the way for future developments
Advantages and customer’s benefits.

- Standard EMS interface
  The AirBoxes are based on the standardised AS-i EMS interface. The insulation displacement contacts for the AS-i flat cable are located in the lower part. The signals are then transferred to the electronic module via contact pins. Thus the electromechanical connection to the flat cable is not separated when the electronics is replaced. Since lower parts can also serve as electric bus splitters it is important to keep the outgoing cable connected in case of replacement. Flat cable lower parts have two bus connections which are connected in parallel and which are used as a branch or splitter for two yellow flat cables (yellow/yellow).

- Pneumatic functions
  The 4/2 way valve integrated in this AS-i module ensures connection of a wide range of pneumatic actuators. Whether clean-line cylinders with return spring or double-active quarterturn actuators, either one can be connected to an AirBox 42. This finely granulated structure and the direct functional link of an actuator to an AS-i address ensure fast search for errors and short plant downtimes.

- Set-up
  The AirBoxes can be addressed before mounting using the addressing unit without voltage being applied. Another addressing option is online via the AS-i controller family. With the integrated display the modules can be addressed manually or in the “easy startup” operating mode automatically.

  All these features make mounting, set-up and maintenance easier for the user and increase uptime of the complete AS-interface system.

Application

The AirBoxes can be used in a wide range of different applications. The easy bus wiring is profitable, in particular in process installations and conveyor technology since it can now also be easily installed directly in the field in category 3D, zone 22 (non-conductive dusts). Due to the high protection rating and direct local mounting, mounting times are reduced compared to the conventional control cabinets and cable routes. The wear-free proximity switches and the diagnosis via AS-interface ensure a maintenance-free operation and reduce downtime compared to conventional installations.

Technical data (extract)

<table>
<thead>
<tr>
<th>Description</th>
<th>Order no.</th>
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<tbody>
<tr>
<td>ATEX AirBox 42 2 DI / 1 PO</td>
<td>AC046A</td>
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<tr>
<td>Flat cable lower part EMX ye/ye</td>
<td>AC5000</td>
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<td>Addressing unit for version 2.1</td>
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<td>Jumper M12 – M12, PVC/high grade stainless steel, 1 m</td>
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<td>Jumper M12 – M12, PVC/high grade stainless steel, 2 m</td>
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<td>Efector inductive proximity switch Ø 34 for category 3D</td>
<td>IB500A</td>
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<td>Capacitive proximity switch M30 for use in category 3D</td>
<td>KI5065</td>
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Marking: II 3D T65 °C IP 65 X

Products

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