PS1E Series
Electro-pneumatic Interface Valves

Section B

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3/2 and 4/2 Electro-Pneumatic Interface Modules
  Complete Units, Head / Tail Sets, Intermediate
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Bold text part numbers are standard.
Standard text part numbers may have longer lead times.
Compact, easy to install, reliable...

**Easy To Meet System Design Needs**
- Full flow capacity allows direct operation of small cylinders (single or double acting) or pneumatic piloting of larger control valves (pneumatic or hydraulic).
- Valve configurations in 3/2 or 4/2 (single or double acting).
- Outlet fittings (push-in) for 5/32” or 1/4” tubing.
- System modification or expansion simplified by easily adding modules to stack.
- Wide range of voltages available.
- Multiple pressures possible in one assembly.

**Easy To Install In Your System**
- Modules snap together and mount on 35mm (DIN) rail.
- Micro-valve stack and PLC may be mounted in the same enclosure.
- Common air supply, exhaust, and electrical supply reduce connections to 1 wire and 1 tube per module.
- Supply and exhaust air can be piped with only one tube for each.
- Fast hook-up with captive wire clamp connections and push-in fittings.
- Compatible pneumo-electric module provides integrated feedback capability for the PLC.
- Eliminates cumbersome electrical connections on machine mounted solenoid valves.

**Easy To Maintain System Operation**
- Manual override for setup and troubleshooting.
- Poppet design for long, trouble free life (lubricated or non-lubricated air).
- Integrated diagnostics (main air test point, output pneumatic indicator, optional suppressor / LED) provide system status at a glance.
- All electrical connections are in a protected enclosure.
- Modular design and easy connection aid in module replacement or system expansion.
**Ps1E Series**

**Electro-pneumatic Interface Valves**

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**Features**

- **Electrical Output Signals**
- **Pneumatic Output Signals**
- **Common Electrical**
- **Pressure Test Point**
- **DIN rail**
- **Air Supply**
- **Pipeable Exhaust**

**3/2 Module (1 Output)**

- 1 Electrical Signal
- Single Air Operated Power Valve

**4/2 Modules (2 Outputs)**

- 1 Electrical Signal
- Double Air Operated Power Valve

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**Caution**: Because these are poppet valves, the common air supply pressure must be built up rapidly (never use a slow start valve 2/2 on the air supply for the interfaces). When pressure is applied, the 4/2 valve takes up a predetermined position (unactuated) when no electrical signal is present.

- Output 2 (yellow indicator) passing.
- Output 4 (red indicator) non-passing.
**Assembled Units**

All units include pop-up indicator for pneumatic output. Red indicates NNP / NC function. Yellow indicates NP / NO function. All model numbers shown include non-locking manual override. (For other voltages, use component parts shown on page 5).

**Single Solenoid - Spring Return 3/2 -**

- **Normally Non-Passing (NNP) / Normally Closed (NC)**

**Head and Tail Sets**

Used to mount valves to DIN rail and provide supply and exhaust ports. All hardware is included.

- Single supply type supplies from one end of the manifold assembly with the other end blocked.
- Double supply type provides pressure and exhaust ports on both ends of the assembly.

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Output Port Push-In Connection Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>12V DC</td>
<td>PS1E21102J</td>
</tr>
<tr>
<td>24V DC</td>
<td>PS1E21102B</td>
</tr>
<tr>
<td>24V AC</td>
<td>PS1E21101B</td>
</tr>
<tr>
<td>120V AC</td>
<td>PS1E21101F</td>
</tr>
</tbody>
</table>

- Weight: 0.21 lb (0.095 kg)

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Output Port Push-In Connection Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>12V DC</td>
<td>PS1E28102J</td>
</tr>
<tr>
<td>24V DC</td>
<td>PS1E28102B</td>
</tr>
<tr>
<td>24V AC</td>
<td>PS1E28101B</td>
</tr>
<tr>
<td>120V AC</td>
<td>PS1E28101F</td>
</tr>
</tbody>
</table>

- Weight: 0.36 lb (0.165 kg)

**Double Solenoid 4/2**

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Output Port Push-In Connection Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>12V DC</td>
<td>PS1E29102J</td>
</tr>
<tr>
<td>24V DC</td>
<td>PS1E29102B</td>
</tr>
<tr>
<td>24V AC</td>
<td>PS1E29101B</td>
</tr>
<tr>
<td>120V AC</td>
<td>PS1E29101F</td>
</tr>
</tbody>
</table>

- Weight: 0.45 lb (0.205 kg)

**Intermediate Supply Module - PS1E10387**

- 1/8" Pipe port for supply and exhaust ports.
- Allows replenishment or isolation of the supply and / or exhaust ports using included plugs.
- Weight: 0.28 lb (0.125 kg)

Shaded Items: Consult factory for availability.
Valves Without Solenoid Operators (1)
All valve units include pop-up indicator for pneumatic output. Red indicates NNP / NC function. Yellow indicates NP / NO function.

(1) To obtain a complete assembled unit, i.e. PS1E21102J, order valve PS1E111 + solenoid PS1E2302J.

Single Acting - Spring Return 3/2 -
Normally Non-Passing (NNP) / Normally Closed (NC)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>12 VDC</td>
<td>1.2W</td>
<td>5</td>
<td>PS1E2302J</td>
<td>PS1E2352J</td>
</tr>
<tr>
<td>24 VDC</td>
<td>1.2W</td>
<td>2.5</td>
<td>PS1E2302E</td>
<td>PS1E2352E</td>
</tr>
<tr>
<td>48 VDC</td>
<td>1.2W</td>
<td>2.5</td>
<td>PS1E2302E</td>
<td>PS1E2352E</td>
</tr>
<tr>
<td>24 V 50-60 Hz</td>
<td>1.6VA**</td>
<td>22</td>
<td>PS1E2301B</td>
<td>PS1E2351B</td>
</tr>
<tr>
<td>48 V 50-60 Hz</td>
<td>1.6VA**</td>
<td>12</td>
<td>PS1E2301E</td>
<td>PS1E2351E</td>
</tr>
<tr>
<td>230V 60Hz / 230V 50Hz</td>
<td>1.6VA**</td>
<td>5</td>
<td>PS1E2301F</td>
<td>PS1E2351F</td>
</tr>
</tbody>
</table>

** 3.5VA Inrush

Weight: 0.10 lb (0.043 kg)

* The solenoid valves are programmable controller compatible provided that leakage currents of the PLC outputs are lower than the drop-out current value.

Plug-In Solenoid Operators

Line Mounted Pressure Switch
Includes pop-up indicator to show presence of pressure.
Includes Clip for mounting on 35mm DIN Rail.

1 SPDT Contact.
5A 250V
5/32 (4 mm) Push-In Tubing Port
Shaded Items: Consult factory for availability.

Switching Pressure

<table>
<thead>
<tr>
<th></th>
<th>20 PSIG Fixed</th>
<th>30 - 75 Adjustable</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS1P1081</td>
<td>PS1P1091</td>
<td></td>
</tr>
</tbody>
</table>

Wt: 0.11 lb (0.050 kg)
Valve Specifications

Body Material:
Glass filled polyamide

Electrical Connection:
Captive wire clamp

LED / Noise Suppressor*:
Combination LED (green) and zener diode

Life Expectancy:
10 million operations

Maximum operating frequency:
10 Hz

Medium Quality:
Standard shop air, lubricated or non-lubricated, 50µ filtered

Mounting:
35mm (DIN) rail

Operating Medium:
Compressed air

Operating Pressure Range:
40 to 120 PSI (3 to 8 bar)

Operating Principal:
Solenoid pilot operated poppet valve

Operating Temperature Range:
5° to 140°F (-15° to 60°C)

Response Time:
10-15 ms (electronic signal to pneumatic output)

Seal Material:
Poppet - polyurethane
Seals - Nitrile (Buna N)

Supply and Exhaust Ports:
1/4"

Outlet port:
5/32" 1/4"

Flow rate:
(SCFM @ 90 PSI) 7.1 9.2

CV .14 .16

Tube Connections:
Push-in (instant) fittings

Voltage Tolerance:
+10 to -15% of rated voltage @ 70°F

Wire Size:
14 - 22 AWG

Caution:
Memory in double acting (Bistable)
4/2 modules is input dependent. Either air supply or electrical command signal must be maintained or memory may be lost.

Pressure Switch Specifications

Body Material:
Glass filled polyamide

Contact Material:
Silver

Contact Rating:
10A / 250VAC

Maximum Operating Frequency:
10 Hz

Mechanical Life:
30 million operations

Operating Principal:
Pressure operated micro switch

Pressure Range:
Fixed pressure:
19 to 120 PSI (1.3 to 8 bar)
Adjustable pressure:
30 to 120 PSI (2 to 8 bar)

Operating Temperature Range:
5° to 140°F (-15° to 60°C)

Seal Material:
Poppet - polyurethane
Seals - Nitrile (Buna N)

Switch Pressure:
Fixed pressure:
>19 PSI (>1.3 bar)
Adjustable pressure:
30 to 75 PSI (2 to 5 bar)

Dimensions shown in inches (mm)

<table>
<thead>
<tr>
<th>Contact life</th>
<th>AC</th>
<th>DC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>24V</td>
<td>48V</td>
</tr>
<tr>
<td>1 Million</td>
<td>Inductive</td>
<td>25</td>
</tr>
<tr>
<td>Operations</td>
<td>Resistive</td>
<td>86</td>
</tr>
<tr>
<td>2 Million</td>
<td>Inductive</td>
<td>–</td>
</tr>
<tr>
<td>Operations</td>
<td>Resistive</td>
<td>–</td>
</tr>
<tr>
<td>5 Million</td>
<td>Inductive</td>
<td>10</td>
</tr>
<tr>
<td>Operations</td>
<td>Resistive</td>
<td>35</td>
</tr>
</tbody>
</table>

3/2 and single head and tail set

4/2 and double head and tail set

*Rail at less than .6" does not allow enough room for mounting clips and may cause air leaks.
### Suppressor and LED Indicators

Mount between Solenoid Valve and the Interface Module

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Circuit Diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indication by LED</td>
<td><img src="image" alt="Circuit Diagram" /></td>
</tr>
</tbody>
</table>

**Sold in Lots of 5**

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Part Number</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 VDC and 50/60 Hz</td>
<td>PS1E1620B</td>
<td>.022 (0.010)</td>
</tr>
<tr>
<td>48 VDC and 50/60 Hz</td>
<td>PS1E1620E</td>
<td>.022 (0.010)</td>
</tr>
<tr>
<td>120 V / 60 Hz, 115 V / 50 Hz</td>
<td>PS1E1511F</td>
<td>.028 (0.012)</td>
</tr>
<tr>
<td>240 V / 60 Hz, 230 V / 50 Hz</td>
<td>PS1E1511M</td>
<td>.028 (0.012)</td>
</tr>
</tbody>
</table>

### Mounting Rail 35mm (DIN)

<table>
<thead>
<tr>
<th>Material</th>
<th>Length</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steel</td>
<td>6'</td>
<td>AM1 DE200</td>
</tr>
</tbody>
</table>

### Spare Parts

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 lot of 100 O-ring seals Between Modules (Pressure - Exhaust)</td>
<td>PPR-L12</td>
</tr>
<tr>
<td>1 lot of 50 seals Between Modules 3/2 or 4/2 and Coil PS1-E23 - 25 Seals (Type A) for Modules 3/2 and 4/2 Bistable - 25 Seals (Type B) for Modules 4/2 Monostable and Bistable</td>
<td>PPR-L13</td>
</tr>
</tbody>
</table>

### Marking Accessories

To be used in place of Write-On Marking Tabs

<table>
<thead>
<tr>
<th>Clip-On Marker Strips</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strip of 10 Identical Numerals (State the Number required)</td>
<td>AB1-R.</td>
</tr>
<tr>
<td>Strip of 10 Identical Letters (State the Letter required)</td>
<td>AB1-G</td>
</tr>
<tr>
<td>Strip of 10 + Signs*</td>
<td>AB1-R12</td>
</tr>
<tr>
<td>Strip of 10 - Signs*</td>
<td>AB1-R13</td>
</tr>
</tbody>
</table>

*Sold in Lots of 25 Strips of 10 Markers