MAC VALVES

SERIAL INTERFACE
BUS COMPATIBLE SYSTEMS
**SM32 Shown With 92 Series**

**BENEFITS**

1. Ability to interface with the MAConnect™ system
2. Ease of installation
3. Reduction in wiring costs
4. Washdown capability

<table>
<thead>
<tr>
<th>INPUTS</th>
<th>OUTPUTS</th>
<th>PROTOCOLS</th>
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<tr>
<td>4 on Serial Module</td>
<td>16 Solenoids Possible</td>
<td>DeviceNet</td>
</tr>
<tr>
<td>Up to 16 on Tethered Module</td>
<td>Up to 16 Outputs on Tethered Module</td>
<td>Remote 1/0</td>
</tr>
<tr>
<td>Up to 16 (4 Per Add-A-Unit Module)</td>
<td>4 Outputs On Add-A-Unit Module</td>
<td>InterBus</td>
</tr>
</tbody>
</table>

* AS-I has up to 8 input/8 output capability
### TECHNICAL DATA

#### Outputs:
- **Number:** 16 Channels / Solenoids on Manifold
- **Voltage / Current:** 24 VDC / .225A per Channel (5.4 Watts Max)

#### Inputs:
- **Number:** 16
- **Type:** 24 VDC NPN or PNP Logic

#### Protocols:

#### Current Consumption:
- Outputs: 4 A Max.
- Electronics and Inputs: 75 mA

#### Supply Voltage:
- Operating with Single Supply: 24 VDC ±10%
- Operating Separate Supply for Valves: 24 VDC ±10%

#### Operating Temperature:
- 0°-50°C (32°-120°F)
- 10-90% RH (Non-condensing)

#### Enclosure:
- Designed to meet NEMA4 With Valves Built To Washdown Mod

#### Welding Version:
- Ability to interface to water saver valves
- Ability to control a Mac Proportional Pressure Controller (PPC)

### DIMENSIONS

![Dimensions Diagram]
**Benefits**

1. Ability to interface with the MAConnect™ system

2. Multiple SM128 receiver manifolds may be added in the field (up to 4 units)

3. Ease of installation

4. Reduction in wiring costs

5. Washdown capability

<table>
<thead>
<tr>
<th>Inputs per SM128 Receiver</th>
<th>Outputs per SM128 Receiver</th>
<th>Protocols</th>
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<tbody>
<tr>
<td>Up to 16 on Tethered Module</td>
<td>16 Solenoids Possible</td>
<td>DeviceNet</td>
</tr>
<tr>
<td>Up to 16 (4 Per Add-A-Unit Module)</td>
<td>Up to 16 Outputs on Tethered Module</td>
<td>Ethernet IP</td>
</tr>
<tr>
<td></td>
<td>4 Outputs On Add-A-Unit Module</td>
<td>Profibus DP</td>
</tr>
</tbody>
</table>
### Gateway Technical Data

**Outputs:**
- Number: 64 Outputs Possible / 16 Outputs per SM 128 Receiver

**Inputs:**
- Number: 64 Inputs Possible / 16 Inputs per SM 128 Receiver

**Protocols:**
- DeviceNet, Ethernet IP, Profibus DP

**Current Consumption:**
- SM128 Gateway Power: 300 mA Max. plus 100 mA per SM128 Receiver
- Operating with Single Supply: 24 VDC ±10%

**Supply Voltage:**
- Operating with Single Supply: 24 VDC ±10%

**Operating Temperature:**
- 0°-50°C (32°-120°F)
- 10-90% RH (non-condensing)

**Enclosure:**
- DeviceNet and Profibus designed to meet NEMA4 (Consult factory for Ethernet IP)

### Receiver Technical Data

**Outputs:**
- Number: 16 Channels / Solenoids on Manifold
- Voltage / Current: 24 VDC / .225A per Channel (5.4 Watts Max)
- 2 Bytes Consumed per Receiver

**Inputs:**
- Number: 16
- Type: 24 VDC NPN or PNP
- 2 Bytes Produced

**Protocols:**
- Operates with any SM128 Gateway

**Current Consumption:**
- Outputs - 4 A Max.
- Electronics and Inputs: 400 mA (all inputs active)

**Supply Voltage:**
- Operating with Single Supply: 24 VDC ±10%
- Operating Separate Supply for Valves: 24 VDC ±10%

**Operating Temperature:**
- 0°-50°C (32°-120°F)
- 10-90% RH (non-condensing)

**Enclosure:**
- Designed to meet NEMA4 with valves built to washdown mod
**SM256 Shown With 92 Series**

**Benefits**

1. Ability to interface with the MACconnect™ system
2. Multiple SM256 receiver manifolds may be added in the field (up to 8 units)
3. Ease of installation
4. Reduction in wiring costs
5. Washdown capability

<table>
<thead>
<tr>
<th>Inputs Per SM256 Receiver</th>
<th>Outputs Per SM256 Receiver</th>
<th>Protocols</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 16 on Tethered Module</td>
<td>16 Solenoids Possible</td>
<td>DeviceNet</td>
</tr>
<tr>
<td>Up to 16 (4 Per Add-A-Unit Module)</td>
<td>Up to 16 Outputs on Tethered Module</td>
<td>Ethernet IP</td>
</tr>
<tr>
<td></td>
<td>4 Outputs On Add-A-Unit Module</td>
<td>Profibus DP</td>
</tr>
</tbody>
</table>
### Gateway Technical Data

**Outputs:** 128 Outputs Possible/16 Outputs per SM 256 Receiver

**Inputs:** 128 Inputs Possible/16 Inputs per SM 256 Receiver

**Protocols:** DeviceNet, Ethernet IP, Profibus DP

**Current Consumption:** SM256 Gateway Power 300 mA Max. plus 100 mA per SM256 Receiver

**Supply Voltage:** Operating with Single Supply: 24 VDC ±10%

**Operating Temperature:** 0°-50°C (32°-120°F)

**Enclosure:** Designed to meet NEMA4 (Consult factory for Ethernet IP)

### Receiver Technical Data

**Outputs:**

- **Number:** 16 Channels / Solenoids on Manifold
- **Voltage / Current:** 24 VDC / .225A per Channel (5.4 Watts Max)
- **2 Bytes Consumed per Receiver**

**Inputs:**

- **Number:** 16
- **Type:** 24 VDC NPN or PNP
- **2 Bytes Produced**

**Protocols:** Operates with any SM256 Gateway

**Current Consumption:** Outputs ~ 4 A Max.

**Supply Voltage:** Operating with Single Supply: 24 VDC ±10%

**Operating Temperature:** 0°-50°C (32°-120°F)

**Enclosure:** Designed to meet NEMA4 with Valves Built To Washdown MOD
SM16 Shown With 44 Series

Benefits

1. Ability to interface with the MACnnect™ system
2. Ease of installation
3. Reduction in wiring costs
5. Small envelope size

<table>
<thead>
<tr>
<th>Inputs</th>
<th>Outputs</th>
<th>Protocols</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>16 Solenoids</td>
<td>DeviceNet</td>
</tr>
</tbody>
</table>
**Outputs:**
- Number: 16 Channels / Solenoids on Manifold
- Voltage / Current: 24 VDC / .225 A per Channel (5.4 Watts Max)

**Inputs:**
- Number: None

**Protocols:**
- DeviceNet

**Current Consumption:**
- Outputs ~ 4A Max.
- Electronics 75 mA

**Supply Voltage:**
- Operating with Single Supply: 24 VDC ±10%
- Operating with Separate Power Supply for Valves: 24VDC ±10%

**Operating Temperature:**
- 0°-50° C (32° -120° F)
- 10-90% RH (non-condensing)

**Enclosure:**
- Designed to meet NEMA 4 With Valves Built To Washdown Mod
BENEFITS

1. Ability to easily add input/output modules in the field

2. Ease of installation

3. Reduction in wiring costs

4. Washdown capability

<table>
<thead>
<tr>
<th>INPUTS</th>
<th>OUTPUTS</th>
<th>PROTOCOLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 32 Input Capacity (8 Inputs per Module)</td>
<td>24 Solenoids on Valve Stack 8 Additional Outputs Possible (4 Outputs per Module)</td>
<td>DeviceNet Remote I/O InterBus Profinet</td>
</tr>
</tbody>
</table>
# Technical Data

## Outputs

<table>
<thead>
<tr>
<th>Number:</th>
<th>24 Channels / Solenoids on Manifold</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 channels / Solenoids per Output Module (2 Modules max.)</td>
<td></td>
</tr>
<tr>
<td>Total Outputs:</td>
<td>32 channels / Solenoids</td>
</tr>
<tr>
<td>Voltage / Current:</td>
<td>24 VDC / .25A per Channel (6 Watts Max)</td>
</tr>
</tbody>
</table>

## Inputs

<table>
<thead>
<tr>
<th>Number:</th>
<th>8 Channels per Input Module (4 Modules max.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Inputs:</td>
<td>32 Channels</td>
</tr>
<tr>
<td>Modules:</td>
<td>Positive Common</td>
</tr>
<tr>
<td>Negative Common (based on direction of current)</td>
<td></td>
</tr>
<tr>
<td>Note:</td>
<td>Modules to be installed as indicated on Base unit</td>
</tr>
</tbody>
</table>

## Protocols

- Allen-Bradley Remote I/O, DeviceNet, Profinet, Interbus

## Current Consumption

- Internal Serial Interface: 300 mA max.
- Outputs: 8A max.
- Inputs: 3A max.

## Supply Voltage

- Operating with Single Supply: 24 VDC ±10%
- Operating with Internal SIM on Separate Supply: 24 VDC ±10%

## Weight

- 3.60 Kg (7.94 lb.) with 6 Modules and Valve Adapter

## Operating Temperature

- 0°-50°C (32° -120°F)
- 10-90% RH (Non-condensing)

## Enclosure

- Designed to meet NEMA 4 with Valves Built To Washdown Mod

## Dimensions

![Diagram Image]
SLIM Shown With 92 Series

Benefits

1. Ease of installation
2. Reduction in wiring costs
3. Washdown capability

<table>
<thead>
<tr>
<th>INPUTS</th>
<th>OUTPUTS</th>
<th>PROTOCOLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>Up to 32 Solenoids</td>
<td>DeviceNet, Remote I/O, InterBus, Profinet</td>
</tr>
</tbody>
</table>
# Technical Data

## Outputs:
- **Number:** 32 Channels / Solenoids on Manifold  
- **Voltage / Current:** 24 VDC / .25A per Channel (6 Watts Max)

## Inputs:
- **Number:** None

## Protocols:
- Allen-Bradley Remote I/O, DeviceNet, Profinet DP, Interbus

## Current Consumption:
- Internal Serial Interface - 300 mA max.  
- Outputs - 8A Max.

## Supply Voltage:
- Operating with Single Supply: 24 VDC ±10%  
- Operating with Internal SLIM on Separate Supply: 24 VDC ±10%

## Weight:
- 2.10 Kg (4.62 lb.)

## Operating Temperature:
- 0°–50° C (32°–120° F)  
- 10–90% RH (non-condensing)

## Enclosure:
- Designed to meet NEMA 4 with Valves Built To Washdown Mod

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![Diagram](image.png)

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**Dimensions:**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td></td>
</tr>
<tr>
<td>Width</td>
<td></td>
</tr>
<tr>
<td>Depth</td>
<td></td>
</tr>
</tbody>
</table>

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**Notes:**

- Optimized for industrial applications.
- Built-in redundancy forfail-safe operation.
- Compliant with latest safety and regulatory standards.
**ADDRESSABLE VALVE SHOWN WITH 92 SERIES**

**BENEFITS**

1. Ability to add a remote valve to a bus network
2. Ease of installation
3. Reduction in wiring costs
4. Washdown capability

<table>
<thead>
<tr>
<th>INPUTS</th>
<th>OUTPUTS</th>
<th>PROTOCOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Input Optional</td>
<td>1 Single or Double Solenoid Valve</td>
<td>DeviceNet</td>
</tr>
</tbody>
</table>
## Technical Data

### Outputs:
- **Number:** 2 Channels / Solenoids
- **Voltage / Current:** 24 VDC / .225A per channel (5.4 watts per channel)

### Inputs:
- **Number:** 2 (optional)
- **Type:** 24 VDC NPN or PNP Logic

### Protocols:
- DeviceNet

### Current Consumption:
- **Outputs:** ≈ .225A
- **Inputs:** ≈ .020A
- **Electronics:** ≈ .030A

### Supply Voltage:
- **Operating with single bus supply:** 24 VDC ±10% (where protocol allows)
- **Operating with separate power supply for valves and inputs:** 24 VDC ±10%

### Operating Temperature:
- 0°–50°C (32°–120°F)
- 10–90% RH (non-condensing)

### High Temperature Applications:
- Consult factory

### Enclosure:
- Designed to meet NEMA 4 with valves built to washdown mod

### Available Valves:
- 35, 37, 45, 47, 82, 92, 93, 100, 800, 900, ISO 1, ISO 2, ISO 3, 6200, 6300, 6500, and 6600 series valves

### Dimensions

![Dimensions Diagram](image)

**Note:** Dimensions shown are approximate.
Installation and Service Precautions:

A. Do not install or service MAC valves without first making sure both air and electrical power to the machine are off and that all air has been completely bled from the system.

B. MAC valves should only be installed and/or serviced by qualified knowledgeable personnel who understand how the specific valve is to be pneumatically piped and electrically connected (where applicable). Flow paths through the valve are shown in the catalog and on the valve by use of ANSI or ISO type standard and graphic symbols. Do not install unless these symbols and the valve functions and operations are thoroughly understood.

C. Before service, maintenance, repair or cleaning, consult local distributor or factory for Parts and Operation Sheet and information on proper cleaning and lubrication agents. Do not subject MAC valves' parts to any foreign substance including lubricants and cleaning agents not specifically recommended by MAC Valves, Inc.

D. MAC valves are never to be stepped on while working on a machine. Damage to the valve, or lines to the valve (either air or electrical lines) or accidental activating of a manual operator on the valve could result in a dangerous condition.

Warning:

Under no circumstances are MAC valves to be used in any application where failure of the valve to operate as intended could jeopardize the safety of the operator or any other person.

-Do not operate outside of the pressure range listed on valve label or outside of designated temperature range.

-Air supply must be clean. Contamination of valve can affect proper operation.

-Before attempting to repair, adjust or clean valve, consult catalog, parts and operation sheet, or factory for proper maintenance procedures, lubrication, and cleaning agents. Never attempt to repair or perform other maintenance with air pressure to valve.

-If airline lubrication is used, consult catalog, parts and operation sheet, or factory for recommended lubricants.