42 Series MAConnect™

42 Series Plug-In Manifold
Specifications 42 Series Valve

Operating Data
Fluids: Air or Inert Gas
Lubrication: Not Required. But if used, a medium aniline range oil is recommended.
Safe Operating
Temperature Range: 0º to 120ºF (-18º to 50ºC)
Pressure Range: Vacuum to 120 PSI (Ext. pilot supply provided for vacuum and low pressure)
20 PSI minimum operating pressure on internal pilot.
Electrical:
12V and 24V: DC Voltage (1.0 to 4.0 Watts)
Max. Coil Amperage - 250mA
Max. Voltage - 48 VDC
Dielectric Strength in Excess of 2000 Volts.
Recommended Mating Sub-D Cable Specifications
- 3 Amp Current Rating per Conductor
- 300 Volt RMS, 105ºC Insulation

<table>
<thead>
<tr>
<th>Pressure Range (PSI)</th>
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<tbody>
<tr>
<td>Description</td>
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<tr>
<td>----------------------</td>
</tr>
<tr>
<td>Single</td>
</tr>
<tr>
<td>Double</td>
</tr>
<tr>
<td>Single</td>
</tr>
<tr>
<td>Double</td>
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FLOWS (Cv)

<table>
<thead>
<tr>
<th>Description</th>
<th>M7 Side Ports 6mm or 1/4&quot; T.R.</th>
<th>M7 Bottom Ports 6mm or 1/4&quot; T.R.</th>
<th>10-32 / M5 Side Ports</th>
<th>10-32 / M5 Bottom Ports</th>
<th>5/32 T.R. Side Ports</th>
<th>5/32 T.R. Bottom Ports</th>
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</thead>
<tbody>
<tr>
<td>Manifold Base</td>
<td>.35</td>
<td>.40</td>
<td>.30</td>
<td>.35</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Note: Valve Function - 2 Position T.R. = Tube Receptacle

Vacuum Applications
Use external pilot models only and connect the vacuum source to ports “3” and “5” and leave Port “1” open to atmosphere on single pressure models. On dual pressure models, reverse the single pressure piping.

Selector Applications (Without Regulators)
Connect the higher pressure to Port “1” and the lower pressure to either Port “3” or “5”. If both pressures are below the minimum operating pressure, use an external pilot.

Internal Pilot
Utilized for main valve pressures equal to or greater than minimum pilot pressure requirements. Pilot supply is fed from the inlet to the pilot.

External Pilot
Required for all solenoid pilot operated models when main valve pressures are below 20 PSI on single solenoid and double solenoid 2 Position 4 Way pilots. The external pilot source is to be connected to the external pilot port in the valve base. External pilot when ordered on manifolds is common, therefore only one external pilot connection is required regardless of the number of valves ganged in a stack.
Specifications
SM16 Manifold

Outputs:
  Number: 16 Channels / Solenoids on manifold
  Voltage Current: 24 VDC at 0.225 per channel (6.0 Watts max.)

Inputs:
  Not available at this time

Protocols:
  DeviceNet

Current Consumption:
  Outputs - 4 A Max.
  Electronics - 200mA

Voltage Ranges:
  Operating with single supply: 24VDC
  Operating separate supply for valves: 24VDC

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

Operating Atmosphere:
  No corrosive gases

Enclosure:
  Designed to meet NEMA 4 and IP65
Specifications
SM32 Manifold

Outputs:
Number: 16 Channels / Solenoids on manifold
Voltage Current: 24 VDC at .225 per channel (6.0 Watts max.)

Inputs:
Number: 4
Type: 24 VDC NPN or PNP Logic

Protocols:
DeviceNet
Allen Bradley Remote I/O*
Profibus
Interbus-S

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

Voltage Ranges:
Operating with single supply: 24VDC
Operating separate supply for valves: 24VDC

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

Enclosure:
Designed to meet NEMA 4 and IP65

* This product incorporates technology which is licensed by Allen-Bradley Company, Inc. Allen-Bradley has not technically approved, nor does it warrant or support this product. All warranty and support for this product and its application is provided solely by MAC Valves, Inc.
TETHERED INPUT MODULE

SPECIFICATIONS

NUMBER OF INPUTS: 4, 8, 12, 16

CONFIGURATION: EACH BANK OF FOUR INPUTS CONFIGURABLE FOR NPN OR PNP INPUT TYPES. COMPLETE UNIT CONFIGURABLE FOR POSITIVE OR NEGATIVE LOGIC

ELECTRICAL: 24 VDC TYPE INPUTS ACCEPTED

PRODUCTION: DESIGNED TO MEET NEMA 4 AND IP65

WEIGHT: APPROXIMATELY 500 GRAMS

ENVIRONMENT: 0 - 50°C  
10 - 90% RH (NON-CONDENSING)

CONNECTOR: 25 PIN SUB-D TETHERED BETWEEN M8 ADAPTER BLOCK AND INPUT MODULE. 4 PIN SINGLE KEY MICRO STYLE FOR INPUTS, ONE CHANNEL PER CONNECTOR
TETHERED OUTPUT MODULE

SPECIFICATIONS

NUMBER OF OUTPUTS: 4, 8, 12, 16

ELECTRICAL: 24 VDC TYPE OUTPUTS ACCEPTED

PRODUCTION: DESIGNED TO MEET NEMA 4 AND IP65

WEIGHT: APPROXIMATELY 500 GRAMS

ENVIRONMENT: 0 - 50° C
10 - 90% RH (NON-CONDENSING)

CONNECTOR: 25 PIN SUB-D TETHERED BETWEEN SM8 ADAPTER BLOCK AND OUTPUT MODULE. 4 PIN SINGLE KEY MICRO STYLE FOR OUTPUTS. ONE CHANNEL PER CONNECTOR
# How to Order 42 Series MAConnect™

## 42A - X X X - X X X - GXXP - X XX (Standard)

<table>
<thead>
<tr>
<th>Valves Function</th>
<th>Body Configuration</th>
<th>Body Pilot Port &amp; Thread Type</th>
<th>Port Size &amp; Thread Type</th>
<th>Base Type</th>
<th>MAConnect™ Plug-In Manifold</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 Base Only</td>
<td>0 Base Only</td>
<td>0 Valve Only</td>
<td>0 Valve Only</td>
<td>0 Valve Only</td>
<td>0 Valve Only</td>
</tr>
<tr>
<td></td>
<td>R Pilot Exh. Piped M5</td>
<td>D 6mm O.D. Tube Receptacle (NPTF thru ports)</td>
<td>L Left End Manifold Base Side Ports</td>
<td>5 External Pilot</td>
<td>Plug-In to Left</td>
</tr>
<tr>
<td></td>
<td>U* Pilot Exh. Out Main Exh.</td>
<td>E 1/4” O.D. Tube Receptacle (NPTF thru ports)</td>
<td>M Left End Manifold Base Bottom Ports</td>
<td>5 External Pilot</td>
<td>Plug-In to Left</td>
</tr>
<tr>
<td></td>
<td>*Not Avail. w/ Flow Controls</td>
<td>F M7 (NPTF thru ports)</td>
<td>N Right End Manifold Base Side Ports</td>
<td>7 External Pilot</td>
<td>Plug-In to Right</td>
</tr>
<tr>
<td></td>
<td></td>
<td>G M5 (BSPPL thru ports)</td>
<td>P Right End Manifold Base Bottom Ports</td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>H 6mm O.D. Tube Receptacle (BSPPL thru ports)</td>
<td>Q Right End Manifold Base Bottom Ports</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>I 1/4” O.D. Tube Receptacle (BSPPL thru ports)</td>
<td>R Right End Manifold Base Bottom Ports</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>J M7 (BSPPL thru ports)</td>
<td>S Right End Manifold Base Bottom Ports</td>
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<tr>
<td></td>
<td></td>
<td>K M5 (BSPTR thru ports)</td>
<td></td>
<td></td>
<td></td>
</tr>
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<td></td>
<td></td>
<td>L 6mm O.D. Tube Receptacle (BSPTR thru ports)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>M 1/4” O.D. Tube Receptacle (BSPTR thru ports)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>N M7 (BSPTR thru ports)</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Solenoid Assembly**

### Parts
- S42005 Single Pressure Spool Assembly
- S42006 Dual Pressure Spool Assembly

**Modifications**
- MOD 1727 Nickel Plated Body and/or Base

**Notes:**
- Thru ports are 1/4”
- If latching solenoid is chosen, the “EA” connector option must be used (see latching solenoid options).
**How to Order 42 Series**

*(Plug-In Manifold)*

**42A - X X X - X X X - GXXP - X XX (Standard)**

### Solenoid Assembly

<table>
<thead>
<tr>
<th>Valve Function</th>
<th>Body Configuration</th>
<th>Body Pilot Port &amp; Thread Type</th>
<th>Port Size &amp; Thread Type</th>
<th>Base Type</th>
<th>Base Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 Base Only</td>
<td>0 Base Only</td>
<td>0 Valve Only</td>
<td>0 Valve Only</td>
<td>J Manifold Base</td>
<td>0 Valve Only</td>
</tr>
<tr>
<td>R Pilot Exh. Piped M5</td>
<td>U* Pilot Exh. Out Main Exh.</td>
<td>D 6mm O.D. Tube Receptacle (NPTF thru ports)</td>
<td>C Plug-In Int. Pilot</td>
<td>C Plug-In Int. Pilot</td>
<td></td>
</tr>
<tr>
<td><strong>Cannot be used w/ “U” Body Configuration</strong></td>
<td></td>
<td>F M7 (NPTF thru ports)</td>
<td>E Plug-In Int. Pilot</td>
<td>E Plug-In Int. Pilot</td>
<td></td>
</tr>
<tr>
<td><strong>Cannot be used w/ “U” Body Configuration</strong></td>
<td></td>
<td>G M5 (BSPPL thru ports)</td>
<td>4 Wire Latching</td>
<td>4 Wire Latching</td>
<td></td>
</tr>
<tr>
<td><strong>Cannot be used w/ “U” Body Configuration</strong></td>
<td></td>
<td>H M7 (BSPPL thru ports)</td>
<td>* F Plug-In Ext. Pilot</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cannot be used w/ “U” Body Configuration</strong></td>
<td></td>
<td>I M5 (BSPTR thru ports)</td>
<td>4 Wire Latching</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cannot be used w/ “U” Body Configuration</strong></td>
<td></td>
<td>J 6mm O.D. Tube Receptacle (BSPPL thru ports)</td>
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<tr>
<td><strong>Cannot be used w/ “U” Body Configuration</strong></td>
<td></td>
<td>K 1/4” O.D. Tube Receptacle (BSPPL thru ports)</td>
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<td></td>
</tr>
<tr>
<td><strong>Cannot be used w/ “U” Body Configuration</strong></td>
<td></td>
<td>L M7 (BSPPL thru ports)</td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Cannot be used w/ “U” Body Configuration</strong></td>
<td></td>
<td>M M5 (BSPTR thru ports)</td>
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</tr>
<tr>
<td><strong>Cannot be used w/ “U” Body Configuration</strong></td>
<td></td>
<td>N 6mm O.D. Tube Receptacle (BSPTR thru ports)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cannot be used w/ “U” Body Configuration</strong></td>
<td></td>
<td>O 1/4” O.D. Tube Receptacle (BSPTR thru ports)</td>
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<td></td>
</tr>
<tr>
<td><strong>Cannot be used w/ “U” Body Configuration</strong></td>
<td></td>
<td>P M7 (BSPTR thru ports)</td>
<td>* For latching solenoid, use electrical connector DA, DB, DC, or DD with these options. For options “C” or “D” the “EA” connector option must be used (see latching solenoid options)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Parts

- S42005 Single Pressure Spool Assembly
- S42006 Dual Pressure Spool Assembly

### Modifications

- MOD 1727 Nickel Plated Body and/or Base

*Note: Thru ports are 1/4”*
Standard Solenoid Options

**Voltage**
- DA 24 VDC (1.0W)
- DC 24 VDC (1.8W)
- DD 24 VDC (2.5W)
- DE 24 VDC (3.0W)
- DF 24 VDC (4.0W)
- DG 12 VDC (1.0W)
- DJ 12 VDC (1.8W)
- DK 12 VDC (2.5W)
- DM 12 VDC (3.0W)
- DR 6 VDC (1.8W)
- DS 6 VDC (3.0W)

**Manual Operator**
1. Recessed Non-Locking Operator
2. Extended Non-Locking Operator

**Electrical Connector**
- DE Plug-In w/ Suppression Diode
- DF Plug-In w/ Supression Diode w/ Ground Pin
- DJ Plug-In
- DM Plug-In w/ Ground Pin
- DT Plug-In w/ LED Light
- DU Plug-In w/ LED Light W/ Ground Pin
- DV Plug-In w/ Suppression Diode w/ LED Light
- DW Plug-In w/ Suppression Diode w/ LED Light w/ Ground Pin
How to Order
Adapter Kits

MAConnect™ Adapter Assembly
(Positive/Negative Commons)
M-42005 - XX - X X

09 9 Pin Sub-D
10 10 Pin
15 15 Pin Sub-D
16 16 Pin
20 20 Pin
25 25 Pin Sub-D
26 26 Pin

1 Internal Pilot Left End
2 External Pilot Left End
3 Internal Pilot Right End
4 External Pilot Right End

Leave Blank for NPTF Threads
P BSPPL Threads
T BSPTR Threads

MAConnect™ Adapter Assembly
(Required For Connecting To A Remote Stack)
M-42006 - XX - X X

09 9 Pin Sub-D
15 15 Pin Sub-D
25 25 Pin Sub-D

1 Internal Pilot Left End
2 External Pilot Left End
3 Internal Pilot Right End
4 External Pilot Right End

Leave Blank for NPTF Threads
P BSPPL Threads
T BSPTR Threads
How to Order SM16 for MAConnect™ Serial Manifold

SM16 - XX A - X X X - XX M - X X XX

Protocol
DN  DeviceNet
Output Indicator Lights
0  St'd (No Lights)
Power Connector
DeviceNet  A  3 Pin Micro
Bus Connector
DeviceNet  A  5 Pin Micro
Inputs
00  No Inputs
Location of
MAConnect Adapter
0  No Adapter
1  Left End
2  Right End
Adapter has common inlet and exhaust ports
Thread Type
A  Int. NPTF
B  Ext. NPTF
C  Int. BSPPL
D  Ext. BSPPL
E  Int. BSPT
F  Ext. BSTPR
Valve Series
Adapter
00  No Adapter
92  92 Series
82  82 Series
47  47 Series
42  42 Series
How to Order SM32 for MACOnnect™
Serial Manifold

SM32 - XX A - X X X - X X M - X X XX

<table>
<thead>
<tr>
<th>Protocol</th>
<th>Output Indicator Lights</th>
<th>Power Connector</th>
<th>Bus Connector</th>
<th>Inputs</th>
<th>Input Types</th>
<th>Location of MACOnnect Adapter</th>
<th>Pilot and Thread Type</th>
<th>Valve Series Adapter</th>
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<tbody>
<tr>
<td>DN  DeviceNet</td>
<td>Monitoring Valve Signal</td>
<td>DeviceNet</td>
<td>DeviceNet</td>
<td>A</td>
<td>No Inputs</td>
<td>No Adapter</td>
<td>A 0</td>
<td>00 No Adapter</td>
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<tr>
<td>PB  Profibus</td>
<td>Monitoring Bus Logic Signal</td>
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<td>B</td>
<td>1 Input</td>
<td>Left End</td>
<td>B 1</td>
<td>92 92 Series</td>
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<td>IB  Interbus-S</td>
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<td>DeviceNet</td>
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<td>C</td>
<td>2 Inputs</td>
<td>Right End</td>
<td>C 2</td>
<td>82 82 Series</td>
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<tr>
<td>AB  Allen Bradley Remote IO</td>
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<td>16 Remote</td>
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<th>Power Connector</th>
<th>Bus Connector</th>
<th>Inputs</th>
<th>Input Types</th>
<th>Location of MACOnnect Adapter</th>
<th>Pilot and Thread Type</th>
<th>Valve Series Adapter</th>
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<tbody>
<tr>
<td></td>
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<td>DeviceNet</td>
<td>DeviceNet</td>
<td>A</td>
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<td>A 0</td>
<td>00 No Adapter</td>
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<td></td>
<td></td>
<td>B</td>
<td>1 Input</td>
<td>Left End</td>
<td>B 1</td>
<td>92 92 Series</td>
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<td>DeviceNet</td>
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<td>C</td>
<td>2 Inputs</td>
<td>Right End</td>
<td>C 2</td>
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<td>Profibus</td>
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**How to Order SM32 for MACOnnect™**

Serial Manifold

SM32 - XX A - X X X - X X M - X X XX

- Output Indicator Lights: Monitoring Valve Signal (A), Monitoring Bus Logic Signal (B)
- Power Connector: DeviceNet (3 Pin Mini, 4 Pin Mini, 3 Pin Micro, 4 Pin Micro), Profibus (9 Pin Sub-D), Interbus-S (9 Pin Sub-D Male and Female), AB Remote IO (5 Pole Term., 4 Pin Mini)
- Bus Connector: DeviceNet (5 Pin Mini, 5 Pin Micro), Profibus (9 Pin Sub-D), Interbus-S (9 Pin Sub-D Male and Female)
- Inputs: No Inputs (A), 1 Input (B), 2 Inputs (C), 3 Inputs (D), 4 Inputs (E), Tethered 16 Remote Inputs (F)
- Input Types: No Inputs (A), NPN (B), PNP (C)
- Location of MACOnnect Adapter: No Adapter (0), Left End (1), Right End (2)
- Pilot and Thread Type: No adapter (A), Int. NPTF (B), Ext. NPTF (C), Int. BSPPL (D), Ext. BSPPL (E), Int. BSTPR (F), Ext. BSTPR (G)
- Valve Series Adapter: No Pilot Port (N), 82 Series Only (**)

**Note:** The diagram provides a visual representation of the various options and combinations for ordering the SM32 for MACOnnect™ Serial Manifold.
How to Order
Input and Output Modules

Remote Tethered Input Module
(For use with SM32 only)
N-SM005 - X X X X - XX

Inputs 1-4
B NPN
C PNP

Inputs 5-8
0 No Inputs
B NPN
C PNP

Inputs 9-12
0 No Inputs
B NPN
C PNP

Inputs 13-16
0 No Inputs
B NPN
C PNP

01 Positive Logic
02 Negative Logic

Remote Tethered Output Module
(For use with SM16 only)
N-SM006 - X X X X

Outputs 1-4
A

Outputs 5-8
A

Outputs 9-12
A

Outputs 13-16
A
42 SERIES MACONNECT
SHOWN WITH SM16

NOTE:
ALL DIMENSIONS SHOWN
ARE IN MILLIMETERS
SHOWN WITH #10-32
SIDE CYL. PORTS
42 SERIES MACONNECT TETHERED TO A 42 SERIES MACONNECT STACK

TETHERED STACK

SK32 MOUNTED ON MACONNECT ADAPTER

15 PIN SUB-D ADAPTER

NOTE:

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS