



Manufacturer of Air Control Valves

**MAC VALVES, INC.**

• P.O. Box 111 • 30569 BECK ROAD • WIXOM, MICHIGAN 48393-7011  
• Tel: (248) 624-7700 • Fax: (248) 624-0549 • www.macvalves.com

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**INNOVATIVE CONTROL SOLUTIONS INC**

3115 14th Ave Unit 8-9 Markham, ON L3R 0H1 Tel 905-709-4220  
3630 Poirier Boulevard St-Laurent, QC H4R 2J5 Tel 514-745-6543  
Email: [services@icssci.com](mailto:services@icssci.com)

SUBJECT: RELEASE OF THE MI/O-67® FIELDBUS PLATFORM AND ASSOCIATED VALVE SERIES

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We are pleased to announce the release and availability of the MI/O-67® Fieldbus Platform. Our initial release includes several different protocol options in addition to several modules to ensure a complete system package. Below are some of the general features of the platform.

- MI/O-67® will utilize existing MAConnect® technology with MI/O-67® specific part numbers
- 5 protocols offered for flexibility of different customer systems
- Digital, Analog and PowerPlus™ modules to accommodate any I/O or additional valves needed
- Designed to meet IP67 washdown specifications (with appropriate valve series modifications)

The remainder of this bulletin will outline specific details on each module and provide information on ordering for both the MI/O-67® platform and various MAConnect® valve series for the initial release.

### **MI/O-67® Communications Module**

The communications module is the brains of the MI/O-67® platform and will be the minimum required module to implement a fieldbus solution. There will be 5 protocols available upon the initial release:

- EtherNet/IP®
- EtherCAT®
- POWERLINK®
- PROFINET®
- Modbus/TCP®

Each communication module will be capable of driving up to 32 solenoids (32 singles, 16 doubles max or any combination of the two up to 32 solenoids) on the MAConnect® stack. The module has a capability of outputting 8 A max (0.5 A per channel) to the MAConnect® stack. You can connect up to 12 additional modules to each communication module and have 8A to spread across those additional modules. All of the MI/O-67® modules will operate on a 24VDC negative common setup. It will be attached to the MAConnect® stack via a valve series specific adapter.

The communications modules will be available in both a 7/8" 4-pin mini and 7/8" 5-pin mini power configuration and will incorporate two Ethernet M12 ports for daisy chaining communication modules. The firmware can be factory updated but should not be attempted by distributors or customers.

In addition to the hardware information laid out above there will be additional software and training tools available for distributor and customer use. These software tools include a digital manual, IP configuration tool and Add On Instructions (AOI) profiles for each module. The associated configuration files (EDS, ESI, etc.) are available on both the MAC Valves website and MDN WINSite®. Videos will be posted to the MAC Valves YouTube® page to show simple configuration tips and techniques. We will send out an email when these tools are available.

All modules will attach via binding clip assemblies (4 clips come with each communications module and 2 clips come with each additional module). You will not need to order the clips separately for assembly, except to stock spares. Please note that each MI/O-67® assembly requires an end plate kit (M-M0001) and associated MI/O-67® valve series adapter.

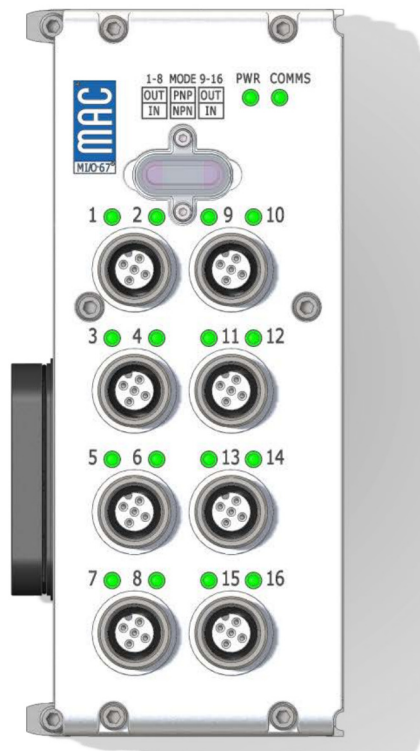


## MI/O-67® Digital I/O Module

The Digital I/O module will help you to differentiate over the competition. While many competitors have digital modules that supply both inputs and outputs in the same module, with the MAC Digital I/O module your customer will be able to change the entire module between NPN and PNP input mode and will also have control over the number of inputs and outputs. The configuration options for I/O will be:

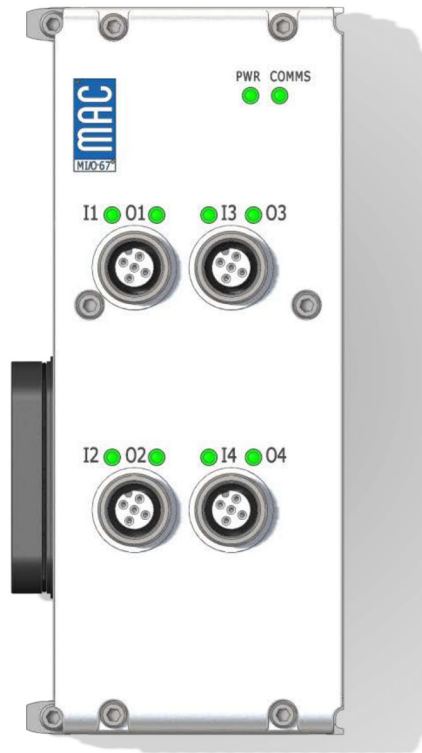
- 0 inputs, 16 outputs
- 16 inputs, 0 outputs
- 8 inputs, 8 outputs

Each channel will have 2 I/O points per M12 connector and will have fault detection as a standard. Max output will be 0.5A per channel.



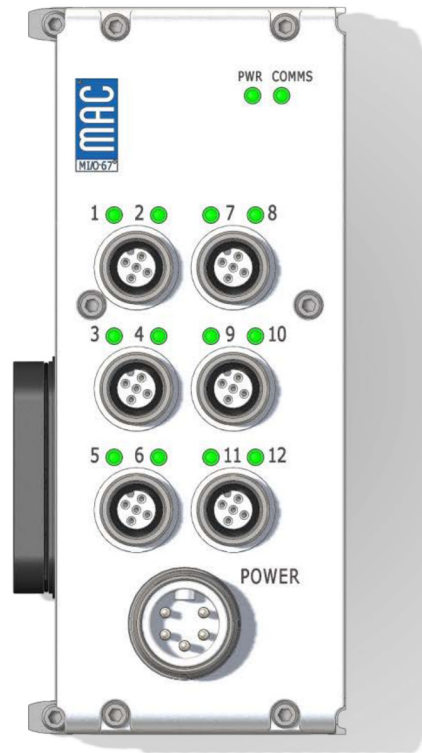
## MI/O-67® Analog I/O Modules

The analog I/O modules will also be available on the initial release of the MI/O-67® platform. Unlike the Digital I/O module, these modules are not configurable. Each Analog I/O module comes set at 4 inputs and 4 outputs (one input and one output per M12 connector). You will also need to take note whether your customer is using 4-20 mA or 0-10VDC analog I/O as they are ordered as two separate modules. Each configuration will also include fault detection.



## MI/O-67® PowerPlus™ Module

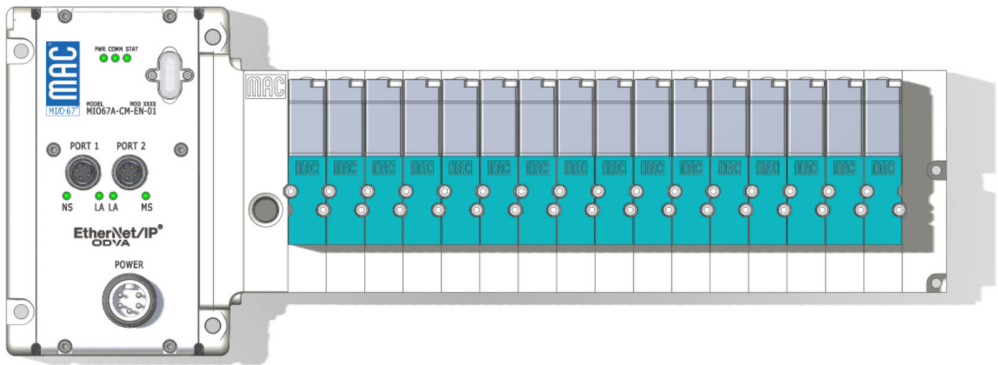
The PowerPlus™ module gives you an additional 12 output points at 0.5 A per channel. The setup is similar to the Digital and Analog modules in that there are two outputs per M12 connector. The PowerPlus™ module also allows you to bring in an additional 6 A of power via a 7/8" 5-pin mini power connector to control additional outputs such as valves, sensors and other outputs.



## MI/O-67® MAConnect® Series

There will be three different MAConnect® series adapters available initially which are the 36/46, 42 and 92 series. In the past with smaller MAConnect® series you were limited to 16 solenoids. With the release of the MI/O-67® MAConnect® series part numbering, you can now order up to 32 solenoid outputs as a standard (only 32 solenoid output boards will be available on MI/O-67® MAConnect® series). Additional releases will be sent out as new adapters are developed. As with previous MAConnect® series releases, bases can be wired for single or double solenoid and you will need to order these as such. Note that a single solenoid valve placed on a base wired for double solenoid will consume two outputs.

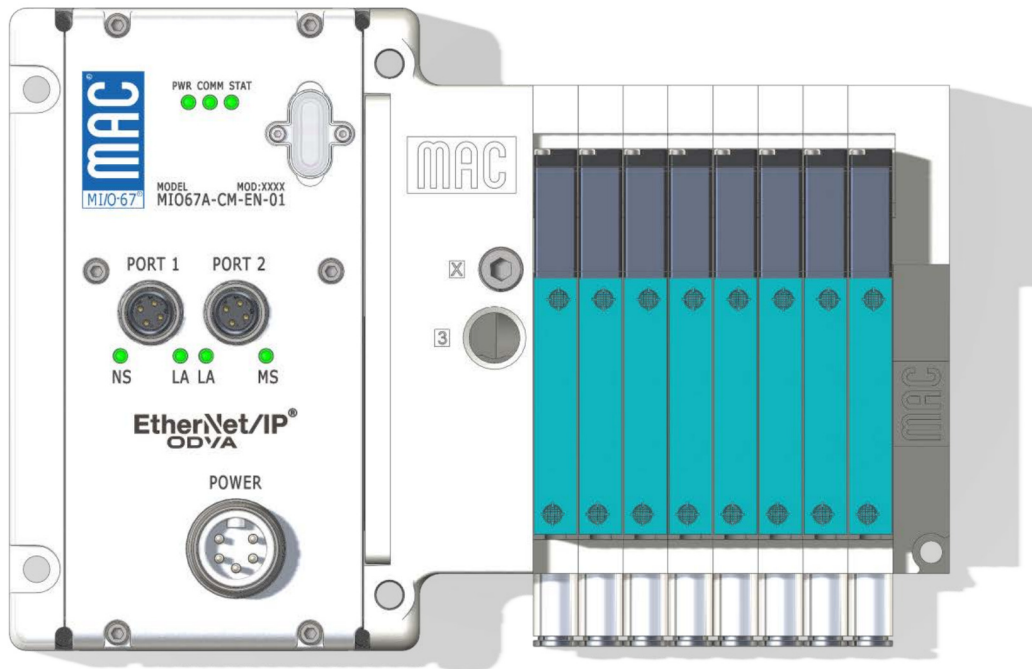
# 36/46 Series



**BOM for Above Stack:**

- (1) M-M0001-01
- (1) MIO67A-CM-EN-01
- (1) M-46019-01
- (16) 46A-LMA-1C-JDAP-1FA
- (1) M-46018-01-16

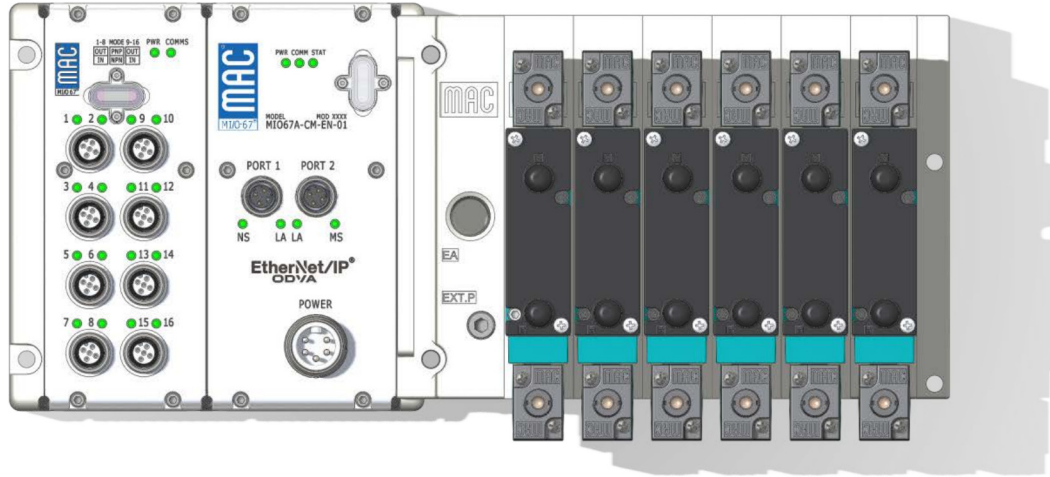
## 42 Series



### **BOM for Above Stack:**

- (1) M-M0001-01
- (1) MIO67A-CM-EN-01
- (1) M-42023-01-08
- (7) 42A-AMA-D11-GDAP-1DJ
- (1) 42A-AMA-D31-GDAP-1DJ

# 92 Series

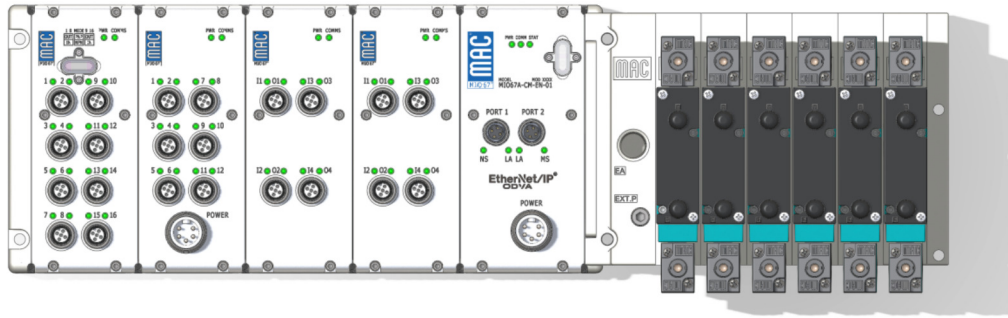


## **BOM for Above Stack:**

- (1) M-M0001-01
- (1) MIO67A-DG-01-01
- (1) MIO67A-CM-EN-01
- (1) M-92048-01-06
- (5) 92B-BAB-B1K-DM-DDAP-1DM
- (1) 92B-BAB-B3K-DM-DDAP-1DM



# 92 Series Loaded Stack



## BOM for Above Stack:

- (1) M-M0001-01
- (1) MIO67A-DG-01-01
- (1) MIO67A-PP-01-01
- (1) MIO67A-AN-01-01
- (1) MIO67A-AN-02-01
- (1) MIO67A-CM-EN-01
- (1) M-92048-01-06
- (5) 92B-BAB-B1K-DM-DDAP-1DM
- (1) 92B-BAB-B3K-DM-DDAP-1DM