

fieldbus

# G3 Fieldbus

Electronics and I/O



Air-Oil Systems Inc. www.airoil.com



**EMERSON.**  
Industrial Automation

# numatics®

[www.numatics.com](http://www.numatics.com)

# NUMATICS®

Numatics, Inc. is a leading manufacturer of pneumatic products and motion control products. Our broad spectrum of standard, custom developed products and application components, have made a significant impact on pneumatic innovation as well as pneumatic and motion control technology. Our company has an extensive history of generating innovative concepts and technological breakthroughs. Many of today's standard features in pneumatic technology were industry firsts from Numatics. We continue our innovative approach to product development by developing electric motion control solutions and enhancing our embedded Fieldbus and I/O products to continually meet and solve our customer's application requirements.



Today Numatics is proud to be a part of the Industrial Automation Division of Emerson Electric Co.

Emerson (NYSE: EMR) is a global company that brings together technology and engineering to provide innovative solutions for customers in a wide range of industrial, commercial, and consumer markets.

Numatics, along with the vast resources of the Emerson organization, will assure that our proud history of innovation and service will continue to meet the needs of our global customers.

## G3 Fieldbus Electronics and I/O

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### G3 Fieldbus - Electronics Made Easy!

**Innovative Graphic Display is used for easy commissioning, visual status & diagnostics.**

#### Commissioning Capabilities

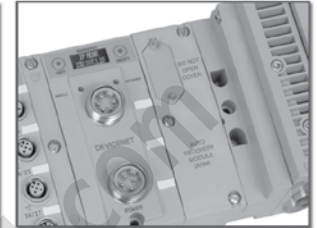
- Set network address (including IP & Subnet mask for Ethernet)
- Set baud rate
- Set auto or manual I/O sizes
- Set fault/idle output states
- Set brightness
- Set factory defaults

#### Visual Diagnostics

- Shorted and open load detection
- Shorted sensor/cable detection
- Low & missing power detection
- Missing module detection
- Self-test activation
- Log of network errors
- Distribution errors



Graphic Display for configuration & diagnostics



Auto Recovery Module

### G3 Fieldbus Communications Electronics

*Why use Numatics Fieldbus communication electronics?*  
**Modular Reality...**

- No internal wiring simplifies assembly
- SPEEDCON M12 connector technology allows for fast and efficient ½ turn I/O connector attachment.
- Power connector allows output power to be removed while inputs and communication are left active.
- IP65 & IP67 protection
- Up to 1200 Input / 1200 Output capability with one communication node! (Present physical I/O combinations allows 1200 I / 544 O)
- 32 valve solenoids per manifold up to 17 manifolds per communication node!
- One node supports 16 I/O modules – Analog I/O, Digital I/O (NPN & PNP) and Specialty
- Innovative clip design allows easy module removal/replacement without dismantling manifold
- Auto Recovery Module (ARM) protects configuration information during a critical failure. Allows configuration information to be saved and reloaded to replacement module automatically.



Highly Distributable



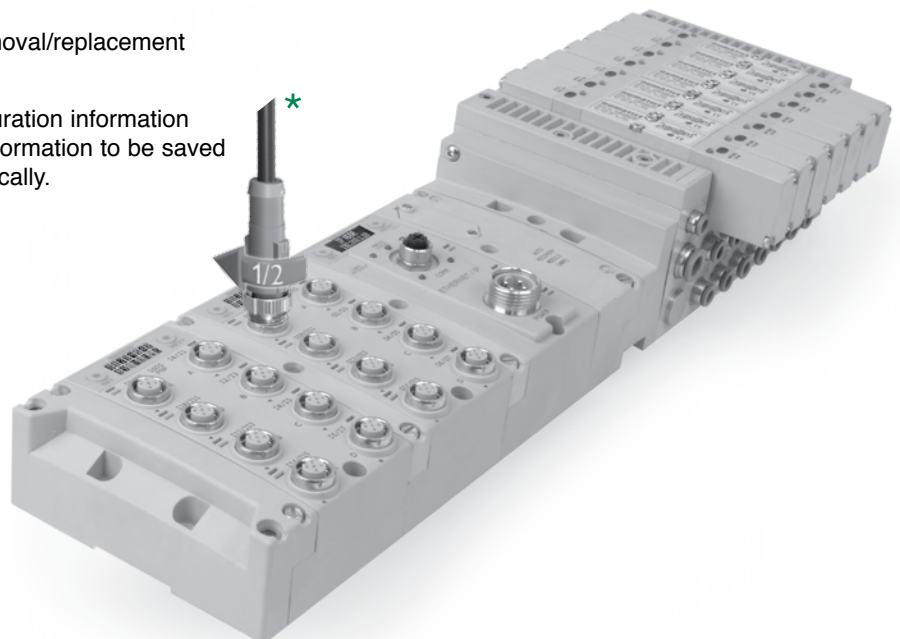
Easy, Robust Connections

#### Supported Protocols

- DeviceNet
- DeviceNet w/Quick Connect
- Ethernet
- PROFIBUS-DP
- CANopen
- PROFINET
- DeviceNet w/DeviceLogix

#### \* Numatics I/O with SPEEDCON technology

- 1/2 turn for faster I/O connections
- Backwards compatible with standard M12 cables/connectors
- Meets the same IP/NEMA standards as M12/Micro cables/connectors
- Same cost as standard M12/Micro cables/connectors
- See pages 42 & 45 for cables with SPEEDCON connector technology





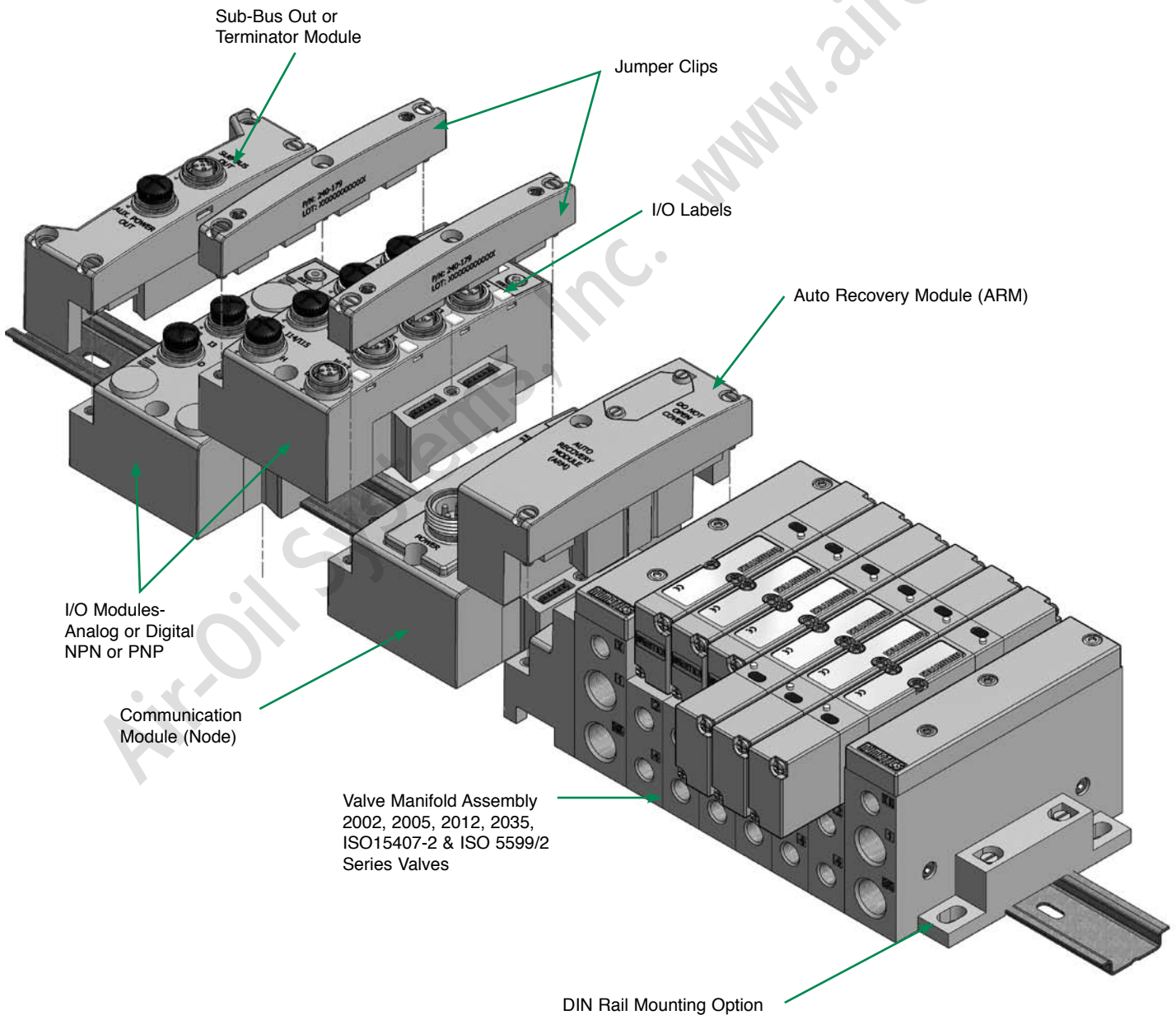


### G3 Electronics Modularity

#### Discrete I/O

The G3 Series product line is a completely modular system. All of the G3 electronic modules plug together, via mechanical clips, allowing easy assembly and field changes. This makes the system highly distributable. Additional flexibility is incorporated because the same modules can be used in either centralized or distributed applications.

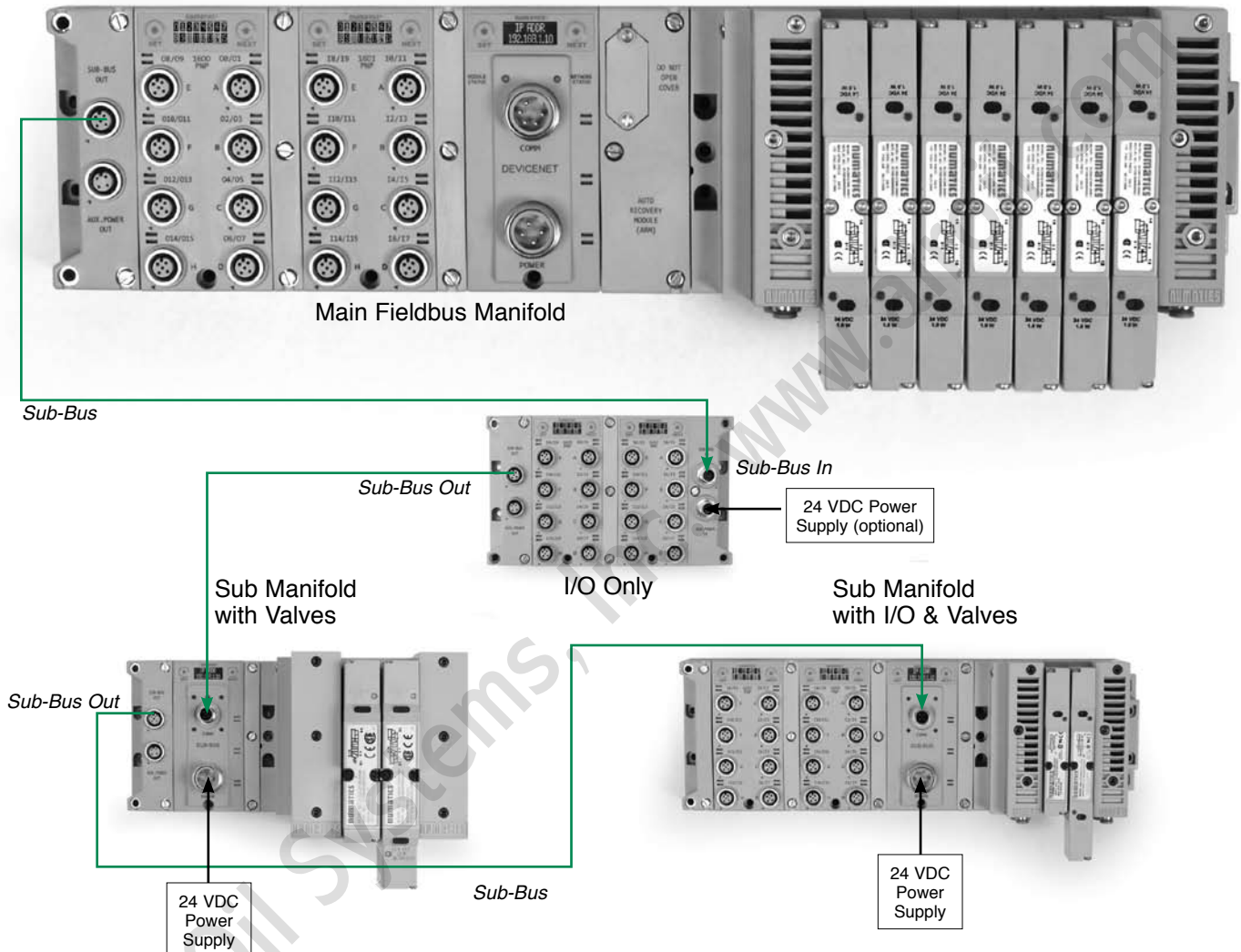
The G3 electronics interfaces with the highly modular Numatics generation 2000 Series, ISO 5599/2 and ISO 15407-2 Series valve lines to further enhance the modularity and flexibility of the entire system solution.





### G3 Platform Distribution Options

Easy, Cost Effective Solutions for Digital I/O and Valve Automation using G3 Electronics



- Unique distribution system allows system efficiency by allowing the same modules to be used in either centralized or distributed applications
- Distribution options include:
  - Inputs OR Outputs
  - Inputs AND Outputs
  - Valves with Inputs AND Outputs
  - Valves with Inputs OR Outputs
  - Valves Only
- Maximum Sub-Bus length not to exceed 30 meters. Maximum Sub-Bus cable current not to exceed 4 amps or excessive cable voltage drops per segment. Auxiliary power connections available for currents above 4 amps. Consult factory for possible deviations.

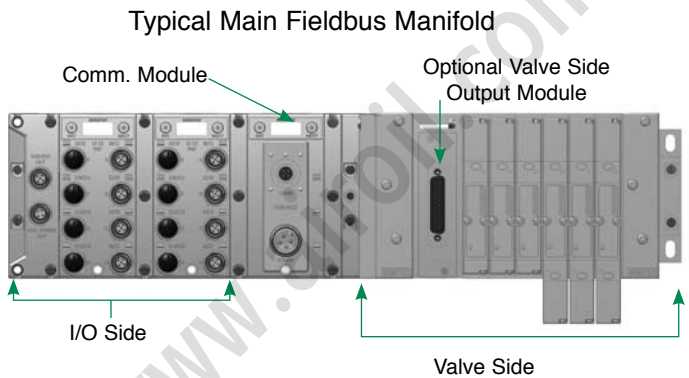


### G3 Platform Distribution Options

The G3 platform is flexible to the point that there are a virtually infinite number of I/O distribution options using the few basic G3 modules. The following basic rules should be followed in the configuration of your control architecture.

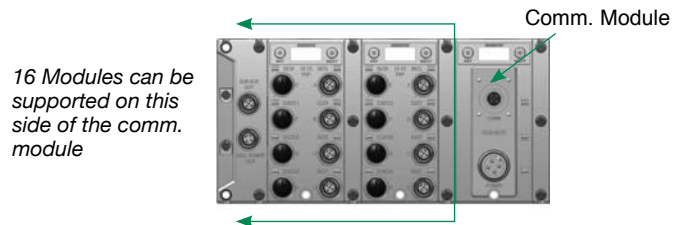
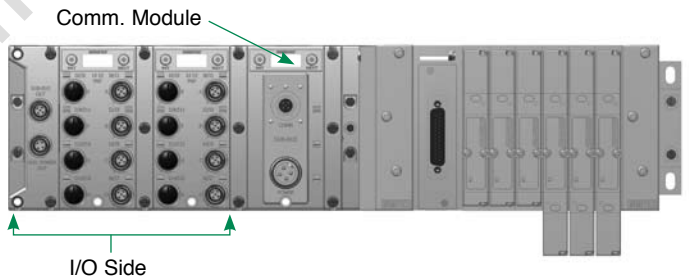
#### Valve Side

- Up to a total of 32 valve solenoids can be driven in a manifold assembly integrated into the Main Fieldbus Manifold. This can be any number of single or double solenoid valves with a total number of solenoids not to exceed 32.
- A Valve side output module is available. If a valve side output module is used, 16 outputs are allocated to the solenoids in the integral manifold and 16 are allocated to the output module in the manifold.



#### I/O Side Distribution

- A total of 16 modules can be integrated into the network and controlled by the main fieldbus communication module (Node)
- Modules include analog and digital I/O modules providing addressing capacity for up to 1200 Inputs / 1200 Outputs per node.
- Unique distribution system allows system efficiency by allowing the same modules to be used in either centralized or distributed applications
- Distribution options include Inputs only, Outputs only, I/O only, valves with Inputs, valves with Outputs and valves with I/O
- Configuration can include up to 16 of the following modules:
  - Digital I/O modules
  - Sub-Bus valve modules
  - Analog I/O modules





## DeviceNet

DeviceNet is an open bus fieldbus communication system developed by Allen-Bradley based on Controller Area Network (CAN) technology. The governing body for DeviceNet is the Open DeviceNet Vendors Association (ODVA). The ODVA controls the DeviceNet specification and oversees product conformance testing.

Numatics' G3 DeviceNet nodes have an integrated graphic display and are capable of addressing combinations of up to 1200 Outputs and 1200 Inputs.

They have been tested and approved for conformance by the ODVA.

More information about DeviceNet and the ODVA can be obtained from the following WEB site:  
[www.odva.org](http://www.odva.org)



DESCRIPTION	REPLACEMENT PART NUMBER
DeviceNet communications module (node)	240-180

## Technical Data

ELECTRICAL DATA	VOLTAGE	CURRENT
Node Power at Max. Brightness	24 VDC +/- 10%	0.070 Amps
BUS Power	11-25 VDC	0.025 Amps
Valves & Discrete I/O	24 VDC +/- 10%	8 Amps Maximum
Power Connector	Single key 4 pin 7/8" MINI type (male)	
Communication Connector	Single key 5 pin 7/8" MINI type (male)	
LED's	Module Status and Network Status	
OPERATING DATA		
Temperature Range (ambient)	-10° to 115° F (-23° to +50° C)	
Humidity	95% relative humidity, non-condensing	
Vibration / Shock	IEC 60068-2-27, IEC60068-2-6	
Moisture Protection	IP65, IP67 (with appropriate assembly and termination)	
CONFIGURATION DATA		
Graphic Display	Display used for setting Node Address, Baud Rate, Fault / Idle Actions, DeviceNet QuickConnect and all other system settings.	
MCM	(Manual Configuration Module) Optional module containing DIP switches for setting node address and baud rate.	
ARM	(Auto Recovery Module) Optional module that contains automatic recovery of system setting in the event of total or partial system failure.	
Maximum Valve-Solenoid Outputs	32	
Maximum Addressable I/O Points	Various combinations of 1200 outputs and 1200 inputs	
NETWORK DATA		
Supported Baud Rates	125K Baud, 250K Baud, 500K Baud, with Auto-Baud detection	
Supported Connection Type	Polled, Cyclic, Change of State (COS) and combination Message Capability	
Bus Connector	Single key 5 pin 7/8" MINI type (male)	
Diagnostics	Power, short, open load conditions and module health are monitored	
Special Features	Supports Auto-Device Replacement (ADR) and fail-safe device settings	
WEIGHT		
DeviceNet Communication Module	252g / 8.9 oz.	





## Ethernet

Ethernet used throughout the world to network millions of PC's has now evolved into a viable industrial network. Ethernet is an open architecture high-level communication network that meets the demands of today's industrial applications requiring high-speed (10/100 Mbit/s), high-throughput and flexibility. Various application layers for this protocol including EtherNet/IP and Modbus TCP/IP. Additionally, Ethernet technology can integrate an on-board Web server, which can make the node readily accessible to any standard Web browser for configuration, testing and even retrieval of technical documentation.

Numatics' G3 Ethernet nodes have an integrated graphic display and are capable of addressing combinations of up to 1200 Outputs and 1200 Inputs.

The G3 EtherNet/IP nodes have been tested and approved for conformance by the ODVA.

More information about EtherNet/IP and the ODVA can be obtained from the following WEB site: [www.odva.org](http://www.odva.org)



DESCRIPTION	REPLACEMENT PART NUMBER
EtherNet/IP communications module (node)	240-181
Modbus TCP/IP communications module (node)	240-292 (Consult factory for availability)

## Technical Data

ELECTRICAL DATA	VOLTAGE	CURRENT
Node Power at Max. Brightness	24 VDC +/- 10%	.091 Amps
Valves & Discrete I/O	24 VDC +/- 10%	8 Amps maximum
Power Connector	Single key 4 pin 7/8" MINI type (male)	
Communication Connector	D-coded 4 pin M12 type (female)	
LED's	Module Status, Network Status and Activity/Link	
OPERATING DATA		
Temperature Range (ambient)	-10° to 115° F (-23° to +50° C)	
Humidity	95% relative humidity, non-condensing	
Vibration / Shock	IEC 60068-2-27, IEC60068-2-6	
Moisture Protection	IP65, IP67 (with appropriate assembly and termination)	
CONFIGURATION DATA		
Graphic Display	Display used for setting IP Address, Subnet mask, Fault / Idle Actions, DHCP / BootP and all other system settings.	
MCM	(Manual Configuration Module) Optional module containing DIP switches for setting IP address.	
ARM	(Auto Recovery Module) Optional module that contains automatic recovery of system setting in the event of total or partial system failure	
Maximum Valve-Solenoid Outputs	32	
Maximum Addressable I/O Points	Various combinations of 1200 outputs and 1200 inputs	
NETWORK DATA		
Supported Baud Rates	10 Mbit / 100 Mbit	
Bus Connector	D-coded 5 pin M12 type (female)	
Diagnostics	Power, short, open load conditions and module health are monitored	
Special Features	Integrated web server and fail-safe device settings	
WEIGHT		
Ethernet Communication Module	255g / 9 oz.	



## PROFIBUS-DP

PROFIBUS-DP is a vendor-independent, open fieldbus protocol designed for communication between automation control systems and distributed I/O at the device level.

Numatics' G3 PROFIBUS-DP nodes have an integrated graphic display and are capable of addressing combinations of up to 1200 Outputs and 1200 Inputs.

The G3 PROFIBUS-DP nodes have been designed and tested to conform to the PROFIBUS standard EN50170. Certification has been done by the PROFIBUS Interface Center (PIC) according to the guidelines determined by the PROFIBUS Trade Organization (PTO). The certification process ensures interoperability for all PROFIBUS devices.

More information regarding PROFIBUS can be obtained from the following WEB site:  
[www.profibus.com](http://www.profibus.com)



DESCRIPTION	REPLACEMENT PART NUMBER
PROFIBUS-DP communications module (node)	240-239

## Technical Data

ELECTRICAL DATA	VOLTAGE	CURRENT
Node Power at Max. Brightness	24 VDC +/- 10%	.094 Amps
Valves & Discrete I/O	24 VDC +/- 10%	8 Amps maximum
Power Connector	Single key 5 pin 7/8" MINI type (male)	
Communication Connector	Single reverse key (B-Coded) 5 pin M12 type (1 male and 1 female)	
LED's	Module Status and Network Status	
OPERATING DATA		
Temperature Range (ambient)	-10° to 115° F (-23° to +50° C)	
Humidity	95% relative humidity, non-condensing	
Vibration / Shock	IEC 60068-2-27, IEC60068-2-6	
Moisture Protection	IP65, IP67 (with appropriate assembly and termination)	
CONFIGURATION DATA		
Graphic Display	Display used for setting Node Address, Baud Rate, Fault / Idle Actions, and all other system settings.	
MCM	(Manual Configuration Module) Optional module containing DIP switches for setting node address and baud rate.	
ARM	(Auto Recovery Module) Optional module that contains automatic recovery of system setting in the event of total or partial system failure	
Maximum Valve-Solenoid Outputs	32	
Maximum Addressable I/O Points	Various combinations of 1200 outputs and 1200 inputs	
NETWORK DATA		
Supported Baud Rates	Auto-Baud from 9.6k to 12M Baud	
Bus Connector	Single reverse key (B-Coded) 5 pin M12 type (1 male and 1 female)	
Diagnostics	Power, short, open load conditions and module health are monitored	
Special Features	Supports Class 2 PROFIBUS-DP master with auto-configuration and fail-safe device settings	
WEIGHT		
PROFIBUS-DP Communication Module	227g / 8 oz.	



## PROFINET

PROFINET is the innovative open standard for Industrial Ethernet, development by Siemens and the Profibus User Organization (PNO). PROFINET complies to IEC 61158 and IEC 61784 standards. PROFINET products are certified by the PNO user organization, guaranteeing worldwide compatibility.

Numatics' G3 PROFINET IO (PROFINET RT) nodes have an integrated graphic display and are capable of addressing combinations of up to 1200 Outputs and 1200 Inputs.

PROFINET is based on Ethernet and uses TCP/IP and IT standards and complements them with specific protocols and mechanisms to achieve a good Real Time performance.

More information regarding PROFINET can be obtained from the following WEB site:  
[www.profibus.com](http://www.profibus.com)



DESCRIPTION	REPLACEMENT PART NUMBER
PROFINET communications module (node)	240-240 (Consult factory for availability)

## Technical Data

ELECTRICAL DATA	VOLTAGE	CURRENT
Node Power at Max. Brightness	24 VDC +/- 10%	
Valves & Discrete I/O	24 VDC +/- 10%	8 Amps maximum
Power Connector	Single key 5 pin 7/8" MINI type (male)	
Communication Connector	Two D-coded 4 pin M12 type (female)	
LED's	Module Status, Network Status and Activity/Link	
OPERATING DATA		
Temperature Range (ambient)	-10° to 115° F (-23° to +50° C)	
Humidity	95% relative humidity, non-condensing	
Vibration / Shock	IEC 60068-2-27, IEC60068-2-6	
Moisture Protection	IP65, IP67 (with appropriate assembly and termination)	
CONFIGURATION DATA		
Graphic Display	Display used for setting IP Address, Subnet Mask, Fault / Idle Actions, and all other system settings.	
MCM	(Manual Configuration Module) Optional module containing DIP switches for setting node address.	
ARM	(Auto Recovery Module) Optional module that contains automatic recovery of system setting in the event of total or partial system failure.	
Maximum Valve-Solenoid Outputs	32	
Maximum Addressable I/O Points	Various combinations of 1200 outputs and 1200 inputs	
NETWORK DATA		
Supported Baud Rates	10 Mbit / 100 Mbit	
Bus Connector	Two D-coded 4 pin M12 type (2-Female)	
Diagnostics	Power, short, open load conditions and module health and configuration are monitored	
Special Features	Integrated web server, Integrated 2 port switch and fail-safe device settings	
WEIGHT		
PROFINET Communication Module	Consult Factory	



## CANopen

CANopen is an open protocol based on Controller Area Network (CAN). It was designed for motion oriented machine control networks but has migrated to various industrial applications. CAN in Automation (CIA) is the international users' and manufacturers' organization that develops and supports CAN-based protocols. Numatics' G3 CANopen nodes have an integrated graphic display and are capable of addressing combinations of up to 1200 Outputs and 1200 Inputs.

More information regarding this organization can be found at: [www.can-cia.org](http://www.can-cia.org)



DESCRIPTION	REPLACEMENT PART NUMBER
CANopen communications module (node)	240-291 (Consult factory for availability)

## Technical Data

ELECTRICAL DATA	VOLTAGE	CURRENT
Node Power at Max. Brightness	24 VDC +/- 10%	0.070 Amps
BUS Power	11-25 VDC	0.025 Amps
Valves & Discrete I/O	24 VDC +/- 10%	8 Amps maximum
Power Connector	Single key 4 pin 7/8" MINI type (male)	
Communication Connector	Single key 5 pin 7/8" MINI type (male)	
LED's	Module Status and Network Status	
OPERATING DATA		
Temperature Range (ambient)	-10° to 115° F (-23° to +50° C)	
Humidity	95% relative humidity, non-condensing	
Vibration / Shock	IEC 60068-2-27, IEC60068-2-6	
Moisture Protection	IP65, IP67 (with appropriate assembly and termination)	
CONFIGURATION DATA		
Graphic Display	Display used for setting Node Address, Baud Rate, Fault / Idle Actions, and all other system settings.	
MCM	(Manual Configuration Module) Optional module containing DIP switches for setting node address and baud rate.	
ARM	(Auto Recovery Module) Optional module that contains automatic recovery of system setting in the event of total or partial system failure.	
Maximum Valve-Solenoid Outputs	32	
Maximum Addressable I/O Points	Various combinations of 1200 outputs and 1200 inputs	
NETWORK DATA		
Supported Baud Rates	125K Baud, 250K Baud, 500K Baud, 1M Baud	
Bus Connector	Single key 5 pin 7/8" MINI type (male)	
Diagnostics	Power, short, open load conditions and module health are monitored and fail-safe device settings	
WEIGHT		
CANopen Communication Module	252g / 8.9 oz.	





## DeviceLogix

DeviceLogix is a Rockwell Automation technology that allows a DeviceNet node to be programmed to execute a sequence independently from the control for the main PLC/IPC. A DeviceLogix enabled DeviceNet node can be used in conjunction with a standard DeviceNet network, providing simple distributed control functionality. Additionally it can also be used in a standalone application, without a network connection or PLC/IPC, to sequence pneumatic valves and control I/O. Numatics has integrated this licensed technology into its DeviceNet compatible valve manifold series, which combine the functionality of a modular pneumatic valve system with integrated I/O.



Programming of the DeviceLogix enabled node is done using the industry standard DeviceNet commissioning software tool RSNetWorx for DeviceNet from Rockwell Automation.

The programming software features an easily understandable graphics environment where the users can simply “drag and drop” logic function blocks (i.e. AND, NAND, OR, NOR, XOR, XNOR, RS LATCHES, COUNTERS and TIMERS) onto a page and interconnect them to develop the required sequence, or ladder logic programming can be used to develop a sequence. The programmed sequence is downloaded to the node via standard DeviceNet communication connection, thus multiple nodes can be programmed on the same network.

DESCRIPTION	REPLACEMENT PART NUMBER
DeviceLogix communications module (node)	240-293 (Consult factory for availability)

## Technical Data

ELECTRICAL DATA	VOLTAGE	CURRENT
Node Power at Max. Brightness	24 VDC +/- 10%	0.070 Amps
BUS Power	11-25 VDC	0.025 Amps
Valves & Discrete I/O	24 VDC +/- 10%	8 Amps Maximum
Power Connector	Single key 4 pin 7/8" MINI type (male)	
Communication Connector	Single key 5 pin 7/8" MINI type (male)	
LED's	Module Status and Network Status	
OPERATING DATA		
Temperature Range (ambient)	-10° to 115° F (-23° to +50° C)	
Humidity	95% relative humidity, non-condensing	
Vibration / Shock	IEC 60068-2-27, IEC60068-2-6	
Moisture Protection	IP65, IP67 (with appropriate assembly and termination)	
CONFIGURATION DATA		
Communication Module	Display used for setting Node Address, Baud Rate, Fault / Idle Actions, and all other system settings.	
MCM	(Manual Configuration Module) Optional module containing DIP switches for setting node address and baud rate.	
ARM	(Auto Recovery Module) Optional module that contains automatic recovery of system setting in the event of total or partial system failure including embedded DeviceLogix logic instructions.	
Maximum Valve-Solenoid Outputs	32	
NETWORK DATA		
Supported Baud Rates	125K Baud, 250K Baud, 500K Baud, with Auto-Baud detection	
Supported Connection Type	Polled, Cyclic, Change of State (COS) and combination Message Capability	
Bus Connector	Single key 5 pin 7/8" MINI type (male)	
Diagnostics	Power, short, open load conditions and module health are monitored and fail-safe device settings	
Special Features	Supports function block diagram and ladder logic programming	
WEIGHT		
DeviceLogix Communication Module	252g / 8.9 oz.	

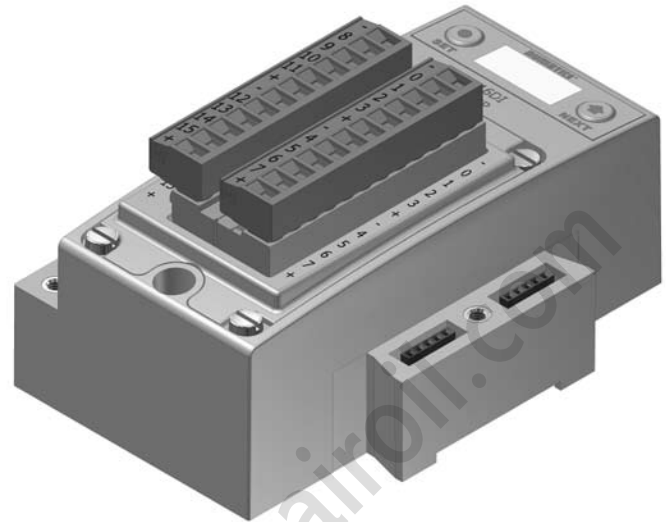


### I/O Modules

#### Digital Inputs -Terminal Strip Modules

DESCRIPTION	PART NUMBER
16 PNP Inputs	240-203
16 NPN Inputs	240-204

(Consult factory for availability)



#### Technical Data

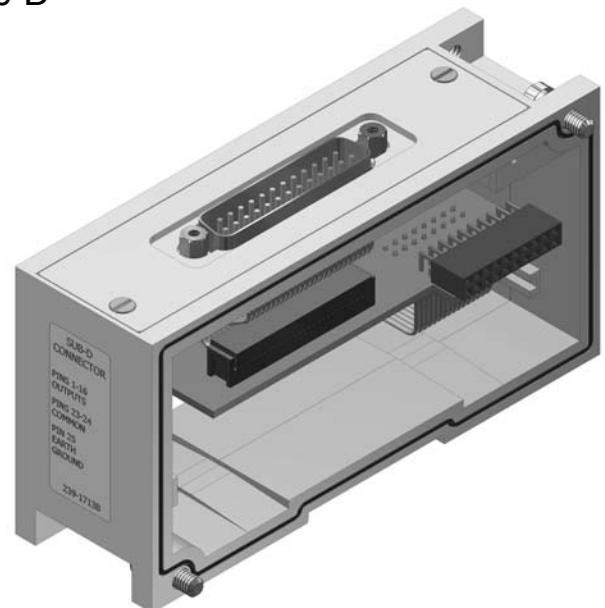
OPERATING DATA	
Temperature Range (ambient)	-10° to 115° F (-23° to +50° C)
Humidity	95% relative humidity, non-condensing
Vibration / Shock	IEC 60068-2-27, IEC60068-2-6
Wire Range	12 to 24 AWG
Strip Length	7 mm
Tightening Torque	0.5 Nm
Moisture Protection	IP20
SPARE PARTS	
Replacement Terminal Strip (I/O 0-7)	140-1073
Replacement Terminal Strip (I/O 8-15)	140-1074
Keying Element for terminal strip	140-1076
WEIGHT	
Input Module	Consult Factory

#### Output Module -Valve Side-Single 25 Pin Sub D

DESCRIPTION	PART NUMBER
16 NPN Outputs	239-1713

#### Technical Data

OPERATING DATA	
Temperature Range (ambient)	-10° to 115° F (-23° to +50° C)
Humidity	95% relative humidity, non-condensing
Vibration / Shock	IEC 60068-2-27, IEC60068-2-6
Moisture Protection	IP20
SPARE PARTS	
Cover Gasket	113-532
Interface Gasket	113-531
WEIGHT	
Valve side output module	590g / 21 oz.





## I/O Modules

### Digital I/O 5-pin M12 Modules

DESCRIPTION	PART NUMBER
Inputs	
8 PNP Inputs	240-206
8 NPN Inputs	240-210
16 PNP Inputs	240-205
16 NPN Inputs	240-209
Outputs	
8 PNP Outputs	240-208
16 PNP Outputs	240-207
Inputs and Outputs	
8 PNP Inputs and 8 PNP Outputs	240-211



### Analog I/O (16 bit resolution) 5-pin M12 Modules

DESCRIPTION	SIGNAL TYPE	PART NUMBER
Inputs		
4 Analog Inputs	0-10 VDC	240-212
4 Analog Inputs	4-20 mA	240-214
Inputs and Outputs		
2 Analog Inputs & 2 Analog Outputs	0-10 VDC	240-213
2 Analog Inputs & 2 Analog Outputs	4-20 mA	240-215



### Technical Data

OPERATING DATA	
Temperature Range	-10° to 115° F (-23° to +50° C)
Humidity	95% relative humidity, non-condensing
Vibration / Shock	IEC 60068-2-27, IEC60068-2-6
Moisture Protection	IP65, IP67 (with appropriate assembly and termination)
Connector	Female 5-pin M12 SPEEDCON
WEIGHT	
I/O Module-Analog	244g / 8.6 oz
I/O Module-Digital	274g / 9.7 oz

Dust Cover - M12 Male  
230-647





### Sub-Bus Modules

#### Sub-Bus Valve Module

Provides Sub-Bus In and Aux. Power In connections to a distributed valve manifold

DESCRIPTION	PART NUMBER	WEIGHT
Sub-Bus Valve Module	240-241	235g / 8.3 oz



#### Sub-Bus Out Module

Provides Sub-Bus Out and Aux. Power Out connections for I/O distribution

DESCRIPTION	PART NUMBER	WEIGHT
Sub-Bus Out Module with DIN Rail Clips	240-244	141g / 5.0 oz
Sub-Bus Out Module	240-183	130g / 4.6 oz



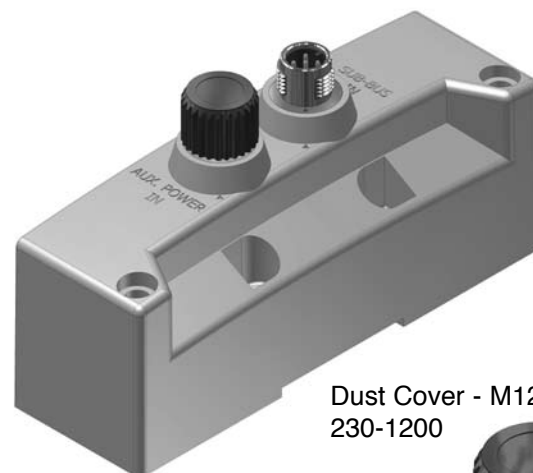
Dust Cover - M12 Male  
230-647



#### Sub-Bus In Module

Provides Sub-Bus In and Aux. Power In connections for I/O distribution

DESCRIPTION	PART NUMBER	WEIGHT
Sub-Bus In Module with DIN Rail Clips	240-246	141g / 5.0 oz
Sub-Bus In Module	240-185	130g / 4.6 oz



Dust Cover - M12 Female  
230-1200







## Miscellaneous Modules

### Auto Recovery Module (ARM)

Protects configuration information during a critical failure. Allows configuration information to be saved and reloaded to replacement module automatically.

DESCRIPTION	PART NUMBER	WEIGHT
ARM Module	240-182	127g / 4.5 oz



### Manual Configuration Module (MCM)

An optional module used to manually configure configuration parameters (i.e. node address)

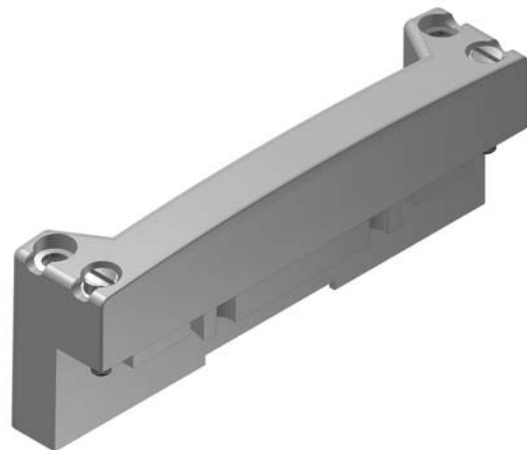
DESCRIPTION	PART NUMBER	WEIGHT
MCM Module	240-186	127g / 4.5 oz



### Terminator Module

Provides termination for the sub-bus. Must be installed after the last I/O module or after the communication module if there are no I/O modules installed.

DESCRIPTION	PART NUMBER	WEIGHT
Terminator Module w/ DIN Rail Clips	240-245	102g / 3.6 oz
Terminator Module	240-184	91g / 3.2 oz





## Miscellaneous Modules

### Jumper Clip

Provides electrical connections between modules

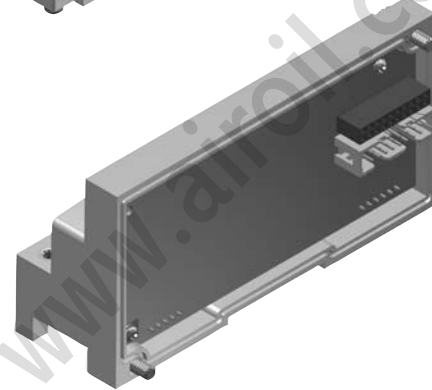
DESCRIPTION	PART NUMBER	WEIGHT
Jumper Clip	240-179	45g / 1.6 oz



### Valve Driver Module

Provides connections between the communication module or Sub-Bus valve module and the valve manifold

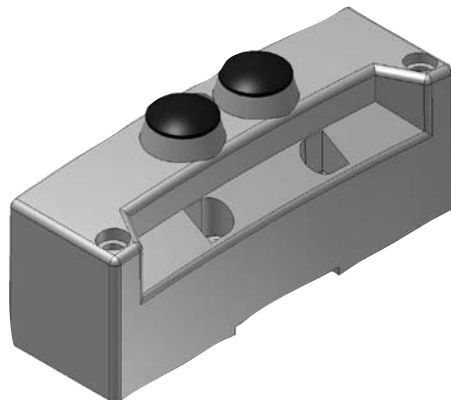
DESCRIPTION	PART NUMBER	WEIGHT
Valve Driver Module w/ DIN Rail Clips	219-858	147g / 5.2 oz
Valve Driver Module	219-828	136g / 4.8 oz



### Right Hand Mounting Cover

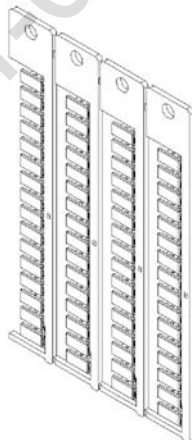
Used when a communication module is used without local valves installed

DESCRIPTION	PART NUMBER	WEIGHT
Right Hand Mounting Cover w/ DIN Rail Clips	240-289	Consult Factory
Right Hand Mounting Cover	240-255	Consult Factory



## Accessories

### Labels-122-1251

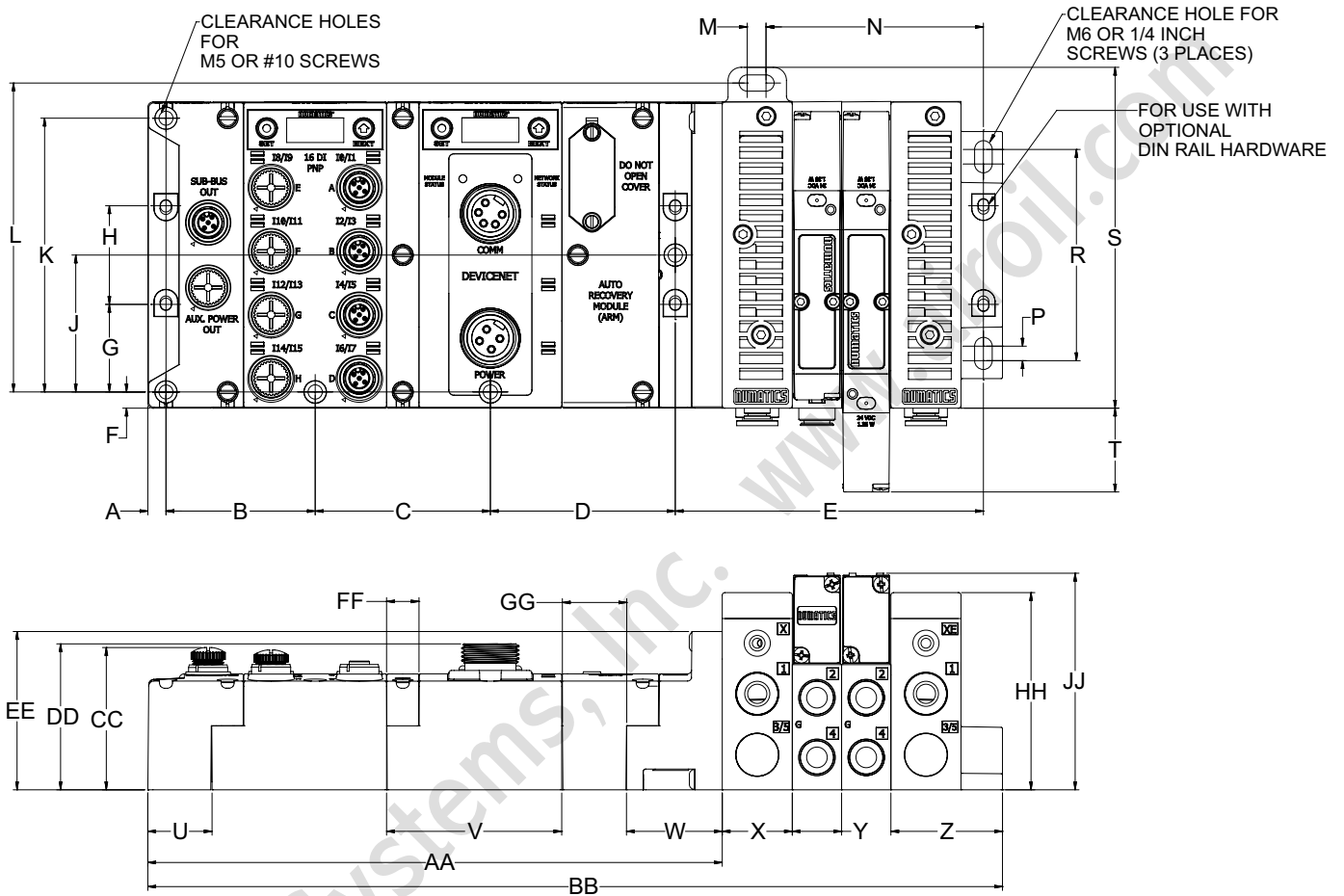


For use with Murrplastik® Type 20 Software



### Dimensional Drawing - G3 Fieldbus Manifold Assembly

#### 2005 Series Valve Manifold Assembly with G3 Electronics and Sub-Bus Output



#### Dimensions in inches (mm)

A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S
0.28	2.26	2.66	2.81	4.68	0.25	1.33	1.50	2.08	4.15	4.69	0.29	3.30	0.22	3.20	5.17
(7.00)	(57.50)	(67.50)	(71.25)	(118.75)	(6.25)	(33.75)	(38.00)	(52.75)	(105.50)	(119.05)	(7.25)	(83.80)	(5.60)	(81.40)	(131.35)

T	U	V	W	X	Y	Z	AA	BB	CC	DD	EE	FF	GG	HH	JJ
1.27	0.97	2.66	1.45	1.06	0.75	1.69	8.71	12.97	2.13	2.21	2.40	0.49	0.98	2.99	3.29
(32.30)	(24.75)	(67.50)	(36.90)	(27.00)	(19.00)	(43.00)	(221.35)	(329.35)	(54.00)	(56.25)	(61.00)	(12.50)	(24.80)	(76.00)	(83.50)







































































