



G3 Electronic displays its innovations !



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

Commissioning Capabilities

- Set network address
- 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

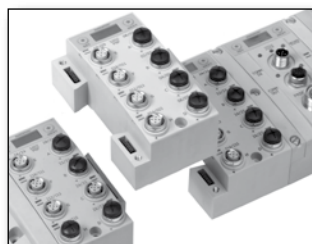
Graphic Display for configuration & diagnostics



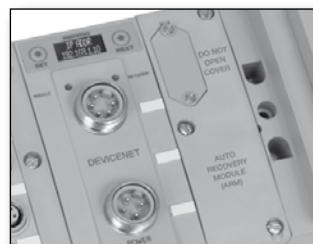
Auto Recovery Module



Highly Distributable



Easy, Robust Connections



Benefits:

- SPEEDCON M12 connector technology allows for fast and efficient ½ turn I/O connector insertion
- Power connector scheme allows output power to be removed while inputs and communication are left active
- IP65/NEMA 4 Protection
- Auto Recovery Module (ARM) protects configuration information during a critical failure
- Novel “clip” design allows easy module removal/replacement without dismantling manifold
- Interfaces to 503 valves with flow from 1200l/mn (ISO subbase) up to 1400 l/mn ANR (high-flow subbase)
- “On line” CAD files, 85 formats

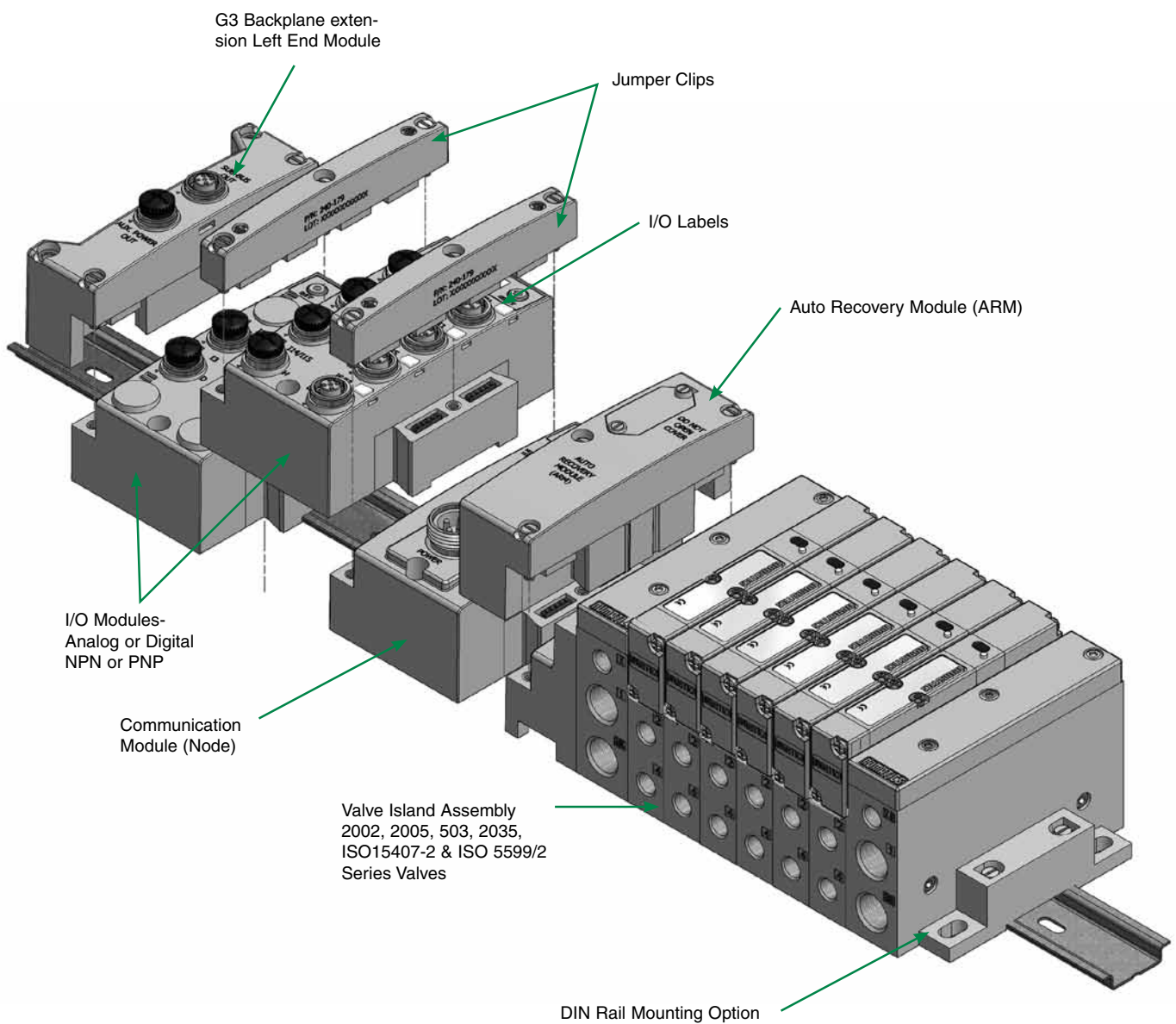


G3 Electronics Modularity

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.

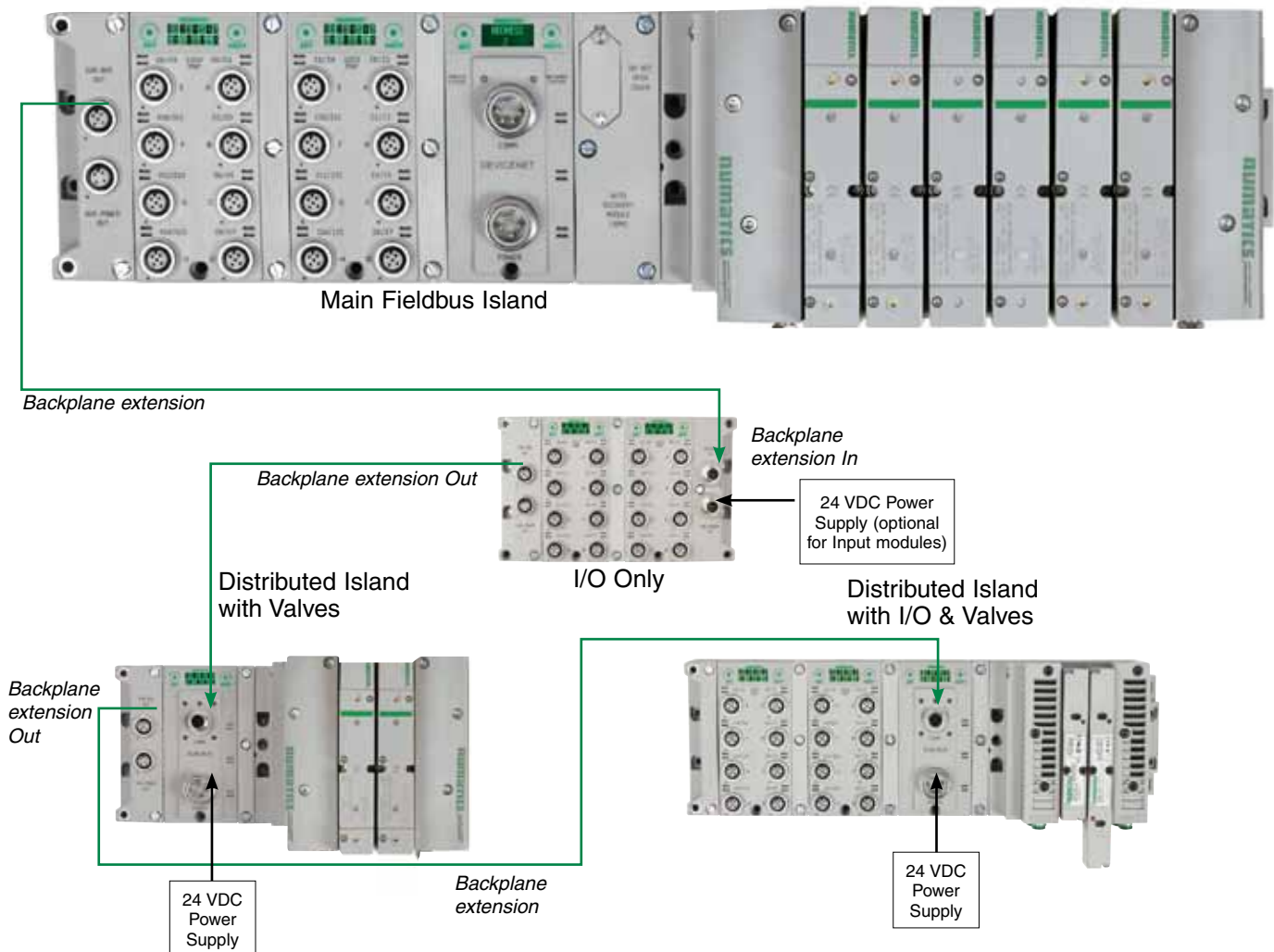
The G3 electronics interfaces with the 503 series but also with the highly modular Numatics generation 2000 Series, ISO 5599/2 and ISO 15407-2 Series valve lines to further enhance the modularity and flexibility of the entire system solution.





G3 Platform Distribution Options

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



Distribution Benefits

- Up to 256 Inputs / 544 Output (1200 bits) capability with one communication node!
- 32 valve solenoid per manifold up to 16 manifolds per communication node!
- One node supports 16 I/O modules-Analog I/O, Digital I/O (NPN & PNP)
- Unique distribution system allows system efficiency by allowing the same modules to be used in either centralized or distributed applications

G3 supported protocols :

- DeviceNet™
- ModbusTCP
- EtherNet/IP™
- CANopen®
- PROFIBUS DP
- DeviceNet™ w/DeviceLogix
- PROFINET
- EtherCAT®
- POWERLINK

G2-2 supported protocols :

- Interbus S
- ControlNet
- Fieldbus Foundation
- AS-interface



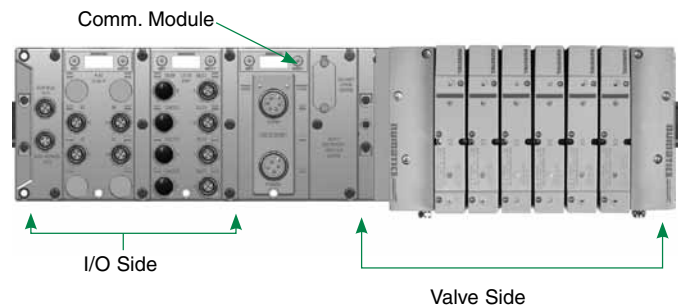
G3 Platform Distribution Options

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

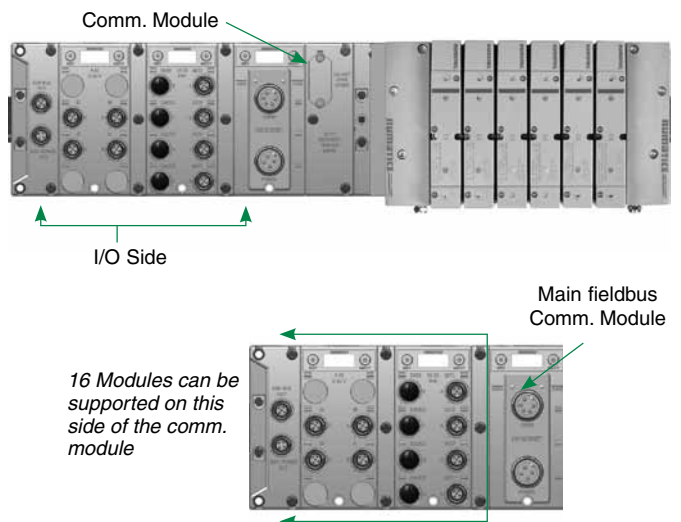
- Up to a total of 32 valve solenoids can be driven in a manifold assembly integrated into the Main Fieldbus Island. This can be any number of single or double solenoid valves with a total number of solenoids not to exceed 32.

Typical Main Fieldbus Island

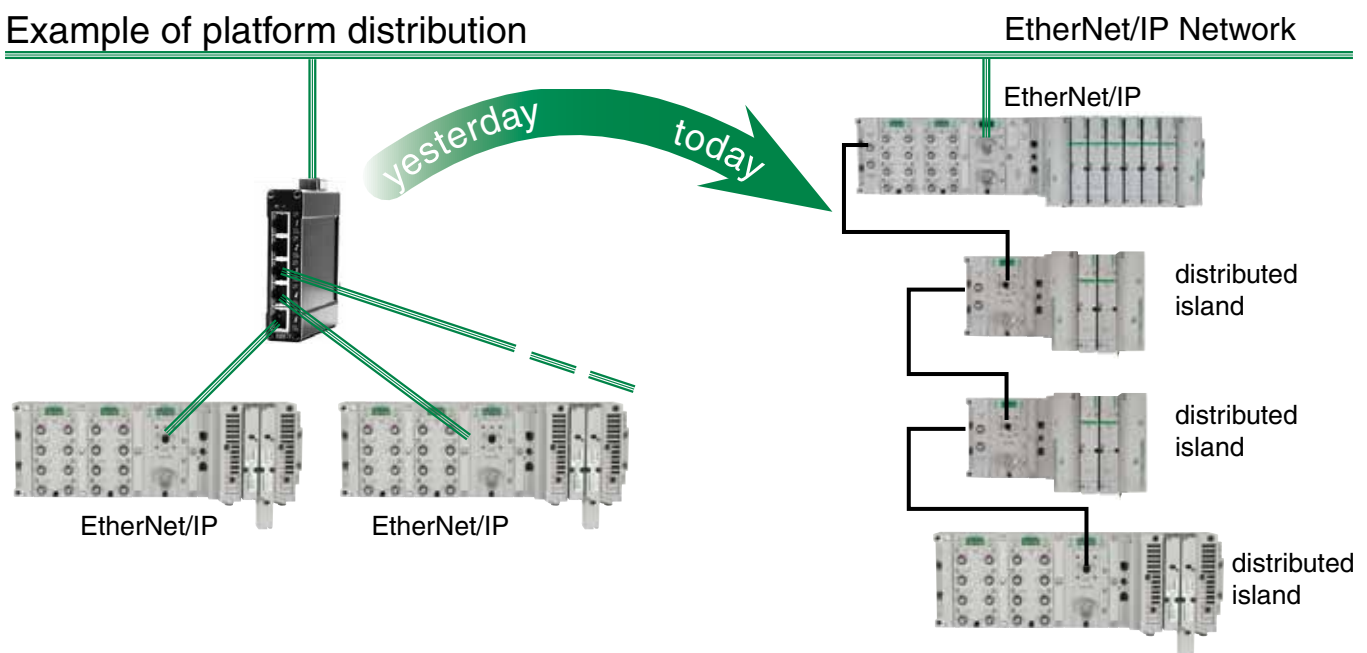


I/O Side Distribution

- 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 256 Inputs / 544 Outputs (1200 bits) 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
 - Backplane extension valve modules
 - Analog I/O modules



Example of platform distribution





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.

Numatic's G3 DeviceNet™ nodes have an integrated graphic display and are capable of addressing combinations of up to 256 inputs / 544 outputs.

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

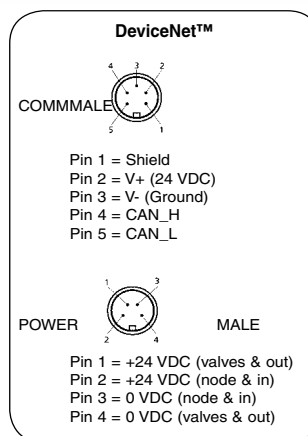


DESCRIPTION

DeviceNet
communications
module (node)

REPLACEMENT PART NUMBER

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)		-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.	
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 256 inputs / 544 outputs (1200 bits)	
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.	



DeviceNet™ bus connection

the front panel of the communication module for DeviceNet™ is equipped with a 5 pin 7/8 - 16 UN male socket (E).

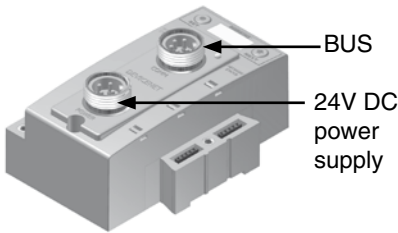
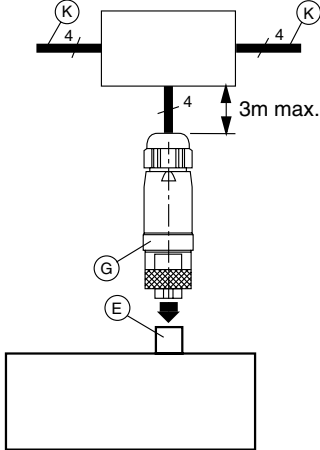
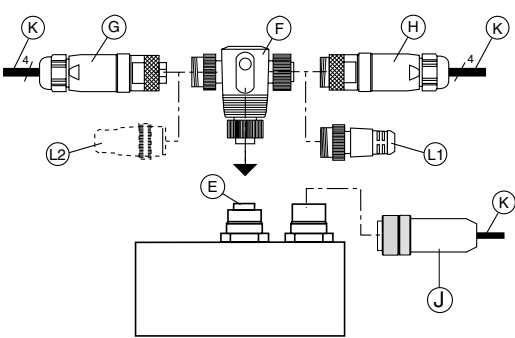
The bus can be connected in the two following ways:

- directly to the module with a T-connector;
- with a straight connector, cable (max. length: 3 m) and a DeviceNet distributor box.

The modules on either side of the system must be provided with terminating resistors (L1 or L2).

Wiring with T-connector

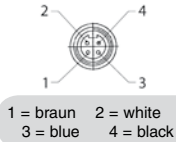
Connection with DeviceNet™ distributor box (X)



Accessories for DeviceNet™

The modules on either side of the system must be provided with terminating resistors (H)

	Accessory	Description	Order Code
G		5 pin straight 7/8-16 UN female connector	88161930
H		5 pin straight 7/8-16 UN male connector	88161931
F		T-connector 7/8-16 UN, 5 male / female / female pins	88161932
L1		Terminating resistor female plug 120 ohms	88161933
L2		Terminating resistor male plug 120 ohms	88161934
J		4 pin straight female cable connector 7/8"	230-1003
		4 pin elbow female cable connector 7/8"	230-1001
		4 pin elbow female cable connector 7/8" with 9,15 m cable	230-950



(K) Cable to be ordered separately.



EtherNet/IP™

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. 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 256 inputs / 544 outputs.

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



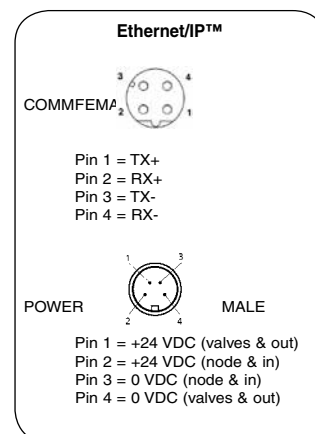
Modul with 2 switch

DESCRIPTION

EtherNet/IP™
communications
module (node)

REPLACEMENT PART NUMBER

240-181



Technical Data

ELECTRICAL DATA		VOLTAGE	CURRENT
Node Power at Max. Brightness		24 VDC +/- 10%	91 mA
Valves & Discrete I/O		24 VDC +/- 10%	8 A maximum
Power Connector		Single key 4 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)		-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.	
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 256 inputs / 544 outputs (1200 bits)	
NETWORK DATA			
Supported Baud Rates		10 Mbit / 100 Mbit	
Bus Connector		D-coded 4 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.	



Accessories for EtherNet/IP™

Accessory	Description		Order Code
	M12 Straight 4 Pin Male D-Coded to Male RJ45 Cable - Shielded	5m	QA0405MK0VA04000
		10m	QA0410MK0VA04000
	M12 Straight 4 Pin Male D-Coded Field Wireable Connector PG 9 Cable Gland – Screw Terminal		QA04F20000000000
	4 pin straight female cable connector 7/8"		230-1003
	4 pin elbow female cable connector 7/8"		230-1001
	4 pin elbow female cable connector 7/8" with 9,15 m cable	<p>1 = braun 2 = white 3 = blue 4 = black</p>	230-950

Server web page

[Home](#)
[Node Configuration](#)
[Node Password](#)
[Diagnostics](#)
[RSLogix 5000 Config](#)
[Quick Start Manual](#)
[Download](#)
[Numatics.com](#)

Current Configuration

Module	Part No.	Description	Details	Activity
Node	240-181	EtherNet Communications Module	<input type="checkbox"/> Show Details	Close all Details ✓
Valve Driver	219-828	Valve Driver Output Module	<input type="checkbox"/> Show Details	Close all Details ✓
ARM	240-182	Auto Recovery Module	<input type="checkbox"/> Show Details	Close all Details ✓
No. 1	240-207	16 Outputs PNP Digital M12 x 8	<input type="checkbox"/> Show Details	Close all Details ✓
No. 2	240-211	8 Inputs / 8 Outputs PNP Digital M12 x 8	<input type="checkbox"/> Show Details	Close all Details ✓
No. 3	240-241	Sub-Bus Valve Driver	<input type="checkbox"/> Show Details	Close all Details ✓
No. 4	240-205	16 Inputs PNP Digital M12 x 8	<input checked="" type="checkbox"/> Show Details	Close all Details !

Firmware Revision: 2.021

PNP Inputs:
I/O Mapping Input (Starting) Byte: 15

0	1	2	3	4	5	6	7
8	9	10	11	12	13	14	15

Short Circuit on Connector:
I/O Mapping Diagnostics (Starting) Byte: 17

A	B	C	D	E	F	G	H
---	---	---	---	---	---	---	---

☐ Show Error/Event Log



Modbus TCP

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. 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 256 inputs / 544 outputs.

The G3 Modbus TCP nodes have been tested and approved for conformance by the ODVA.

More information about Modbus TCP and the ODVA can be obtained from the following WEB site: www.odva.org

MODBUS TCP



Modul with 2 switch

DESCRIPTION

Modbus TCP communications module (node)

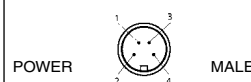
REPLACEMENT PART NUMBER

240-292

Modbus TCP



Pin 1 = TX+
Pin 2 = RX+
Pin 3 = TX-
Pin 4 = RX-



Pin 1 = +24 VDC (valves & out)
Pin 2 = +24 VDC (node & in)
Pin 3 = 0 VDC (node & in)
Pin 4 = 0 VDC (valves & out)

Technical Data

ELECTRICAL DATA		VOLTAGE	CURRENT
Node Power at Max. Brightness		24 VDC +/- 10%	91 mA
Valves & Discrete I/O		24 VDC +/- 10%	8 A maximum
Power Connector		Single key 4 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)		-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.	
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 256 inputs / 544 outputs (1200 bits)	
NETWORK DATA			
Supported Baud Rates		10 Mbit / 100 Mbit	
Bus Connector		D-coded 4 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	



Accessories for Modbus TCP

Accessory	Description		Order Code
	M12 Straight 4 Pin Male D-Coded to Male RJ45 Cable - Shielded	5m	QA0405MK0VA04000
		10m	QA0410MK0VA04000
	M12 Straight 4 Pin Male D-Coded Field Wireable Connector PG 9 Cable Gland – Screw Terminal		QA04F20000000000
	4 pin straight female cable connector 7/8"		230-1003
	4 pin elbow female cable connector 7/8"		230-1001
	4 pin elbow female cable connector 7/8" with 9,15 m cable	<p>1 = braun 2 = white 3 = blue 4 = black</p>	230-950



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.

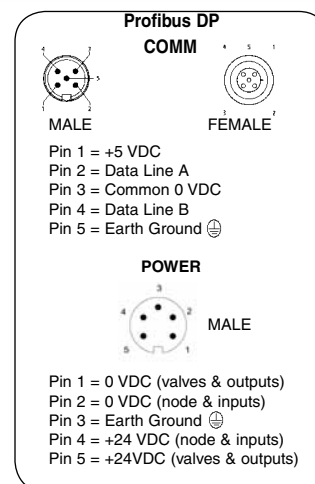
Numatics' G3 PROFIBUS DP nodes have an integrated graphic display and are capable of addressing combinations of up to 256 inputs / 544 outputs.

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



DESCRIPTION	REPLACEMENT PART NUMBER
PROFIBUS DP communications module (node)	240-239
PROFIBUS DP communications module (node) Automotive industry	240-301



Technical Data

ELECTRICAL DATA		VOLTAGE	CURRENT
Node Power at Max. Brightness		24 VDC +/- 10%	94 mA
Valves & Discrete I/O		24 VDC +/- 10%	8 A 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)		-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.	
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 256 inputs / 544 outputs (1200 bits)	
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	



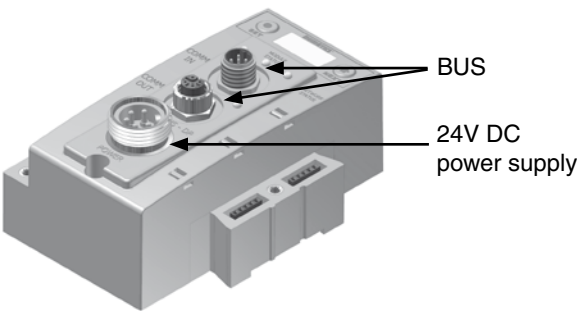
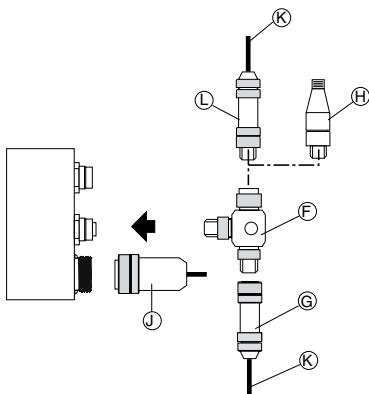
PROFIBUS DP bus connection

The front panel of the communication module for Profibus-DP is equipped with:

- a 5 pin male 7/8" socket for power supply
- a 5 pin male M12-B socket or 5 pin female M12-A socket for the bus cable (with a T-connector on integrated M12 COM-IN/COM-OUT connector)

Fieldbus connection

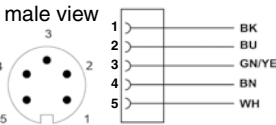
Wiring with T-connector



Accessories for PROFIBUS DP

The modules on either side of the system must be provided with terminating resistors (H)

	Accessory	Description	Order Code
F		T-connector M12-B, 5 female / male / male pins (Profibus 12Mb max)	88100712
G		M12-B connector , 5 female pins - for cable dia. 6 - 8 mm (Profibus 12Mb max)	88100713
L		M12-B connector , 5 male pins - for cable dia. 6 - 8 mm (Profibus 12Mb max)	88100714
H		Terminating resistor M12-B - male plug	88100716
J		5 pin straight female cable connector 7/8"	MC05F90000000000
		5 pin elbow female cable connector 7/8"	MD05F200000000000
		5 pin elbow female cable connector 7/8" with 10 m cable	MD0510MAG00000000
		Dust cover - M12 female	88157773



00560GB-2011/R01
Availability, design and specifications are subject to change without notice. All rights reserved.

(K) Cable to be ordered separately.



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 256 inputs / 544 outputs.

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.profinet.com



Modul with 2 switch

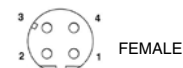
DESCRIPTION

PROFINET
communications
module (node)

REPLACEMENT PART NUMBER

240-240

PROFINET COMM



Pin 1 = TD+
Pin 2 = RD+
Pin 3 = TD-
Pin 4 = RD-

POWER



Pin 1 = 0 VDC (valves & outputs)
Pin 2 = 0 VDC (node & inputs)
Pin 3 = Earth Ground
Pin 4 = +24 VDC (node & inputs)
Pin 5 = +24VDC (valves & outputs)

Technical Data

ELECTRICAL DATA		VOLTAGE	CURRENT
Node Power at Max. Brightness		24 VDC +/- 10%	
Valves & Discrete I/O		24 VDC +/- 10%	8 A 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)		-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.	
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 256 inputs / 544 outputs (1200 bits)	
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	



Accessories for PROFINET

Accessory	Description		Order Code
	M12 Straight 4 Pin Male D-Coded to Male RJ45 Cable - Shielded	5m	QA0405MK0VA04000
		10m	QA0410MK0VA04000
	M12 Straight 4 Pin Male D-Coded Field Wireable Connector PG 9 Cable Gland – Screw Terminal		QA04F20000000000
	5 pin straight female cable connector 7/8"		MC05F90000000000
	5 pin elbow female cable connector 7/8"		MD05F20000000000
	5 pin elbow female cable connector 7/8" with 10 m cable Euro colour code		MD0510MAG0000000

Server web page

[Home](#)
[Node Configuration](#)
[Node Password](#)
[Diagnostics](#)
[RSLogix 5000 Config](#)
[Quick Start Manual](#)
[Download](#)
[Numatics.com](#)

Current Configuration

Module	Part No.	Description	Details	Activity
Node	240-181	EtherNet Communications Module	<input type="checkbox"/> Show Details Close all Details	✓
Valve Driver	219-828	Valve Driver Output Module	<input type="checkbox"/> Show Details Close all Details	✓
ARM	240-182	Auto Recovery Module	<input type="checkbox"/> Show Details Close all Details	✓
No. 1	240-207	16 Outputs PNP Digital M12 x 8	<input type="checkbox"/> Show Details Close all Details	✓
No. 2	240-211	8 Inputs / 8 Outputs PNP Digital M12 x 8	<input type="checkbox"/> Show Details Close all Details	✓
No. 3	240-241	Sub-Bus Valve Driver	<input type="checkbox"/> Show Details Close all Details	✓
No. 4	240-205	16 Inputs PNP Digital M12 x 8	<input checked="" type="checkbox"/> Show Details Close all Details	!

PNP Inputs:

I/O Mapping Input (Starting) Byte: 15

Short Circuit on Connector:

I/O Mapping Diagnostics (Starting) Byte: 17

0 1 2 3 4 5 6 7

8 9 10 11 12 13 14 15

A B C D E F G H

☐ Show Error/Event Log



POWERLINK

Ethernet POWERLINK is a open fieldbus protocol designed by B&R for communication between automation control systems and distributed I/O at the device level. Numatics' G3 Ethernet POWERLINK nodes have an integrated graphic display and are capable of addressing combinations of up to 512 Inputs / Outputs. The G3 Ethernet POWERLINK nodes have been designed and tested to conform to the Ethernet POWERLINK specifications available at EPSG group (Ethernet Powerlink Standardization Group). The certification process ensures interoperability for all Ethernet POWERLINK devices and compatible with B&R systems. More information regarding Ethernet POWERLINK can be obtained from the following WEB site: www.ethernet-powerlink.org

ETHERNET POWERLINK



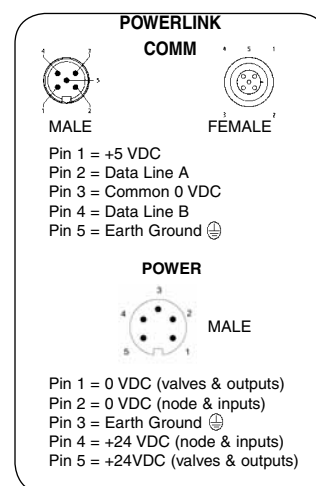
Modul with 2 hub

DESCRIPTION

POWERLINK
communications module
(node)

REPLACEMENT PART NUMBER

240-309



Technical Data

ELECTRICAL DATA		VOLTAGE	CURRENT
Node Power at Max. Brightness		24 VDC +/- 10%	94 mA
Valves & Discrete I/O		24 VDC +/- 10%	8 A 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 and Network Status	
OPERATING DATA			
Temperature Range (ambient)		-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.	
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 256 inputs / 544 outputs (1200 bits)	
NETWORK DATA			
Supported Baud Rates			
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			
WEIGHT			
POWERLINK Communication Module		227g	



Accessories for POWERLINK

Accessory	Description		Order Code
	M12 Straight 4 Pin Male D-Coded to Male RJ45 Cable - Shielded	5m	QA0405MK0VA04000
		10m	QA0410MK0VA04000
	M12 Straight 4 Pin Male D-Coded Field Wireable Connector PG 9 Cable Gland – Screw Terminal		QA04F20000000000
	5 pin straight female cable connector 7/8"		MC05F90000000000
	5 pin elbow female cable connector 7/8"		MD05F20000000000
	5 pin elbow female cable connector 7/8" with 10 m cable Euro colour code		MD0510MAG0000000

Server web page

[Home](#)
[Node Configuration](#)
[Node Password](#)
[Diagnostics](#)
[RSLogix 5000 Config](#)
[Quick Start Manual](#)
[Download](#)
[Numatics.com](#)

Current Configuration

Module	Part No.	Description	Details	Activity
Node	240-181	EtherNet Communications Module	<input type="checkbox"/> Show Details Close all Details	✓
Valve Driver	219-828	Valve Driver Output Module	<input type="checkbox"/> Show Details Close all Details	✓
ARM	240-182	Auto Recovery Module	<input type="checkbox"/> Show Details Close all Details	✓
No. 1	240-207	16 Outputs PNP Digital M12 x 8	<input type="checkbox"/> Show Details Close all Details	✓
No. 2	240-211	8 Inputs / 8 Outputs PNP Digital M12 x 8	<input type="checkbox"/> Show Details Close all Details	✓
No. 3	240-241	Sub-Bus Valve Driver	<input type="checkbox"/> Show Details Close all Details	✓
No. 4	240-205	16 Inputs PNP Digital M12 x 8	<input checked="" type="checkbox"/> Show Details Close all Details	!

Firmware Revision: 2.021

PNP Inputs:
I/O Mapping Input (Starting) Byte: 15

Short Circuit on Connector:
I/O Mapping Diagnostics (Starting) Byte: 17

<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
<input type="checkbox"/> 8	<input type="checkbox"/> 9	<input type="checkbox"/> 10	<input type="checkbox"/> 11	<input type="checkbox"/> 12	<input type="checkbox"/> 13	<input type="checkbox"/> 14	<input type="checkbox"/> 15
<input type="checkbox"/> A	<input type="checkbox"/> B	<input checked="" type="checkbox"/> C	<input type="checkbox"/> D	<input type="checkbox"/> E	<input type="checkbox"/> F	<input type="checkbox"/> G	<input type="checkbox"/> H

☐ Show Error/Event Log



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 256 inputs / 544 outputs.

More information regarding this organization can be found at: www.can-cia.org

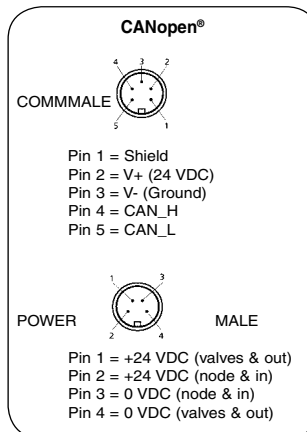


DESCRIPTION

CANopen®
communications
module (node)

REPLACEMENT PART NUMBER

240-291



Technical Data

ELECTRICAL DATA		VOLTAGE	CURRENT
Node Power at Max. Brightness		24 VDC +/- 10%	70 mA
BUS Power		11-25 VDC	25 mA
Valves & Discrete I/O		24 VDC +/- 10%	8 A 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)		-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.	
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 256 inputs / 544 outputs (1200 bits)	
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	



CANopen® bus connection

The front panel of the communication module for CANopen® is equipped with:

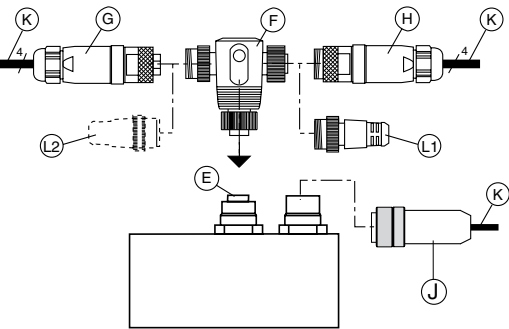
- a 4 pin male 7/8" socket for power supply
- a 5 pin male 7/8" socket for the bus cable (E)

The bus can be connected in the two following ways:

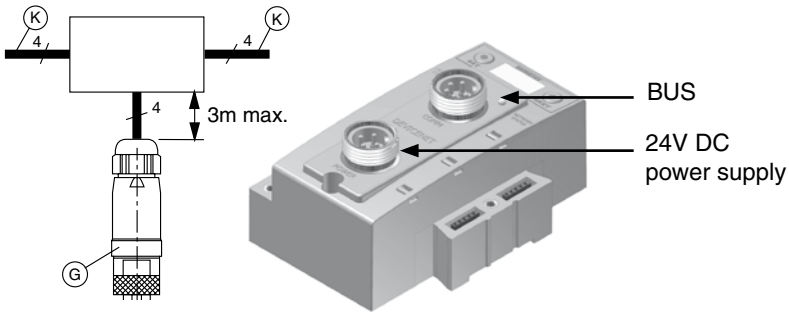
- directly to the module with a T-connector,
- with a straight connector, cable (max. length: 3 m) and a DeviceNet distributor box.

The modules on either side of the system must be provided with terminating resistors (L1 or L2).

■ Wiring with T-connector



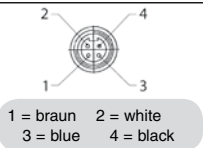
■ Connection with distributor box



Accessories for CANopen®

The modules on either side of the system must be provided with terminating resistors (H)

	Accessory	Description	Order Code
G		5 pin straight 7/8-16 UN female connector	88161930
H		5 pin straight 7/8-16 UN male connector	88161931
F		T-connector 7/8-16 UN, 5 male / female / female pins	88161932
L1		Terminating resistor female plug 120 ohms	88161933
L2		Terminating resistor male plug 120 ohms	88161934
J		4 pin straight female cable connector 7/8"	230-1003
		4 pin elbow female cable connector 7/8"	230-1001
		4 pin elbow female cable connector 7/8" with 9,15 m cable	230-950



(K) Cable to be ordered separately.



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 stand-alone 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 island 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

Technical Data

ELECTRICAL DATA		VOLTAGE	CURRENT
Node Power at Max. Brightness		24 VDC +/- 10%	70 mA
BUS Power		11-25 VDC	25 mA
Valves & Discrete I/O		24 VDC +/- 10%	8 A 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)		-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.	
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	



DeviceLogix bus connection

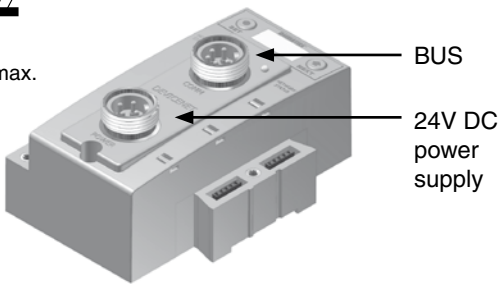
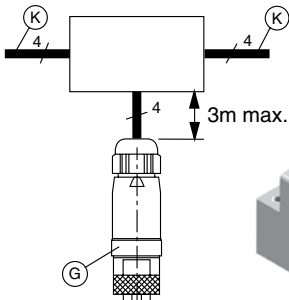
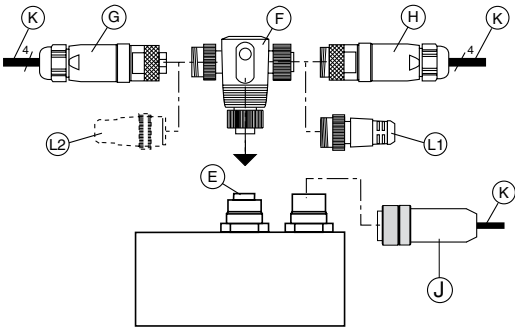
The front panel of the communication module for DeviceLogix is equipped with a 5 pin 7/8-16 UN male socket for the bus cable. The bus can be connected in the two following ways:

- directly to the module with a T-connector;
- with a straight connector, cable (max. length: 3 m) and distributor box.

The modules on either side of the system must be provided with terminating resistors (L1 or L2).

■ Wiring with T-connector

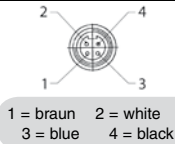
■ Connection with distributor box



Accessories for DeviceLogix

The modules on either side of the system must be provided with terminating resistors (L)

	Accessory	Description	Order Code
G		5 pin straight 7/8-16 UN female connector	88161930
H		5 pin straight 7/8-16 UN male connector	88161931
F		T-connector 7/8-16 UN, 5 male / female / female pins	88161932
L1		Terminating resistor female plug 120 ohms	88161933
L2		Terminating resistor male plug 120 ohms	88161934
J		4 pin straight female cable connector 7/8"	230-1003
		4 pin elbow female cable connector 7/8"	230-1001
		4 pin elbow female cable connector 7/8" with 9,15 m cable	230-950



(K) Cable to be ordered separately.