



**ATEX**  
2005 Series

**NUMATICS™**

## 1. How to Order - G3 or Multipol Assembly Kit

**A K 3 E D 0 0 0 0 3 G A36**

### Electronic / Electrical Systems Type & Location

- 3** = G3 Electronics
- T** = Terminal Strip 1 - 32
- J** = 25 pin SUB-D connector
- M** = 37 pin SUB-D connector
- P** = 12 pin round M23 connector
- Q** = 19 pin round M23 connector
- R** = 26 pin round M27 connector

### Series\*

- E** = 2005 Series

### Number of Valve Stations

- A** = 1    **I** = 9
- B** = 2    **J** = 10
- C** = 3    **K** = 11
- D** = 4    **L** = 12
- E** = 5    **M** = 13
- F** = 6    **N** = 14
- G** = 7
- H** = 8

### Maximum Number of Solenoid Outputs

AK „F“	AK „T“	AK „J“	AK „M“	AK „P“	AK „R“	AK „S“
14	14	14	14	8	14	14

### Options

2-22 (3GD) IP65X	2-22 (3GD) IP54X	2 (3G) IP54X
<b>A36</b> = A00 <sup>(1)</sup>	<b>A41</b> = A00 <sup>(1)</sup>	<b>A43</b> = A00 <sup>(1)</sup>
<b>D36</b> = DRM <sup>(2)</sup>	<b>D41</b> = DRM <sup>(2)</sup>	<b>D43</b> = DRM <sup>(2)</sup>
<b>D38</b> = 14X <sup>(3)</sup>	<b>D42</b> = 14X <sup>(3)</sup>	<b>D44</b> = 14X <sup>(3)</sup>
<b>F16</b> = D14 <sup>(4)</sup>	<b>F18</b> = D14 <sup>(4)</sup>	<b>F19</b> = D14 <sup>(4)</sup>

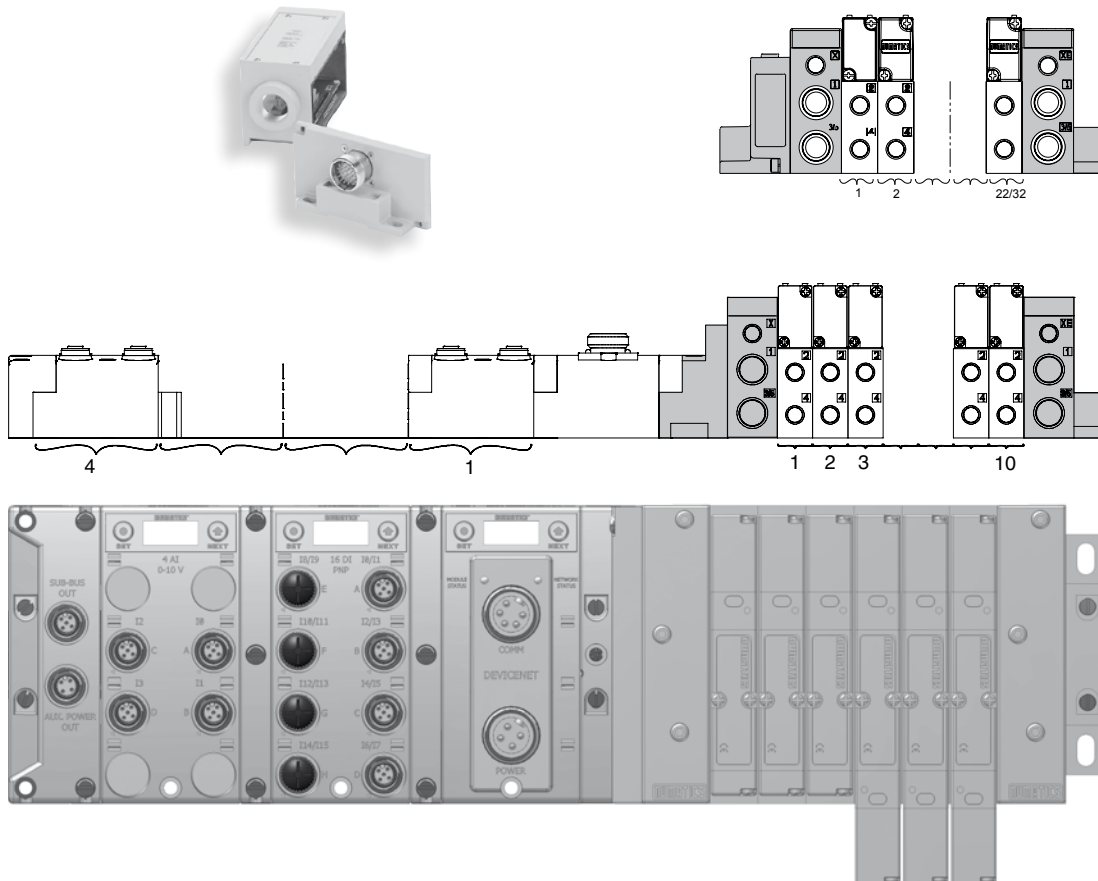
- <sup>(1)</sup> Standard (no options)
- <sup>(2)</sup> DIN Rail Mount
- <sup>(3)</sup> External pilot supply from port 14
- <sup>(4)</sup> External pilot supply from port 14 and DIN Rail Mount

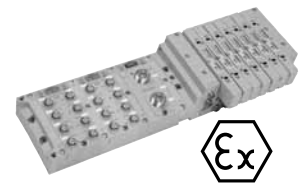
### End Plate Port Type

- G** = ISO 228/1-G Tap Pressure Ports  
(ISO228/1 Conduit Ports if applicable)

### End Plate Port Size

- 3** = 3/8

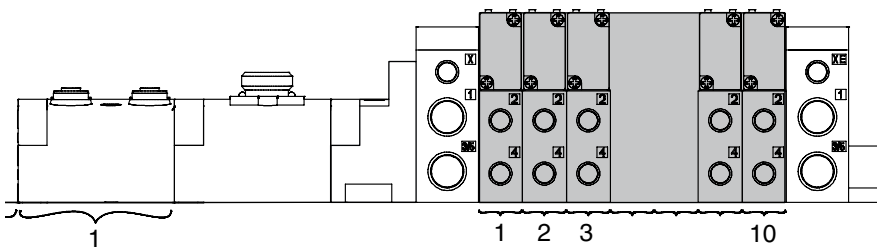




**2.a How to Order - Series 2005 Valve**

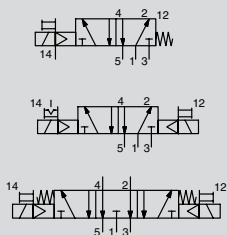
**05 1 BB 4 Z6 M G 71W 61**

<p><b>Series</b></p> <p><b>05 =</b> 2005 Series</p> <p><b>Port Size of Base</b></p> <p><b>1 =</b> G 1/8 or valve w/o manifold</p> <p><b>Actuator</b></p> <p><b>BA =</b> Single actuated and spring return, flush non-locking manual override</p> <p><b>BB =</b> Double actuated, flush non-locking manual override</p> <p><b>00 =</b> Island w/o valve (blank station)</p> <p><b>Function</b></p> <p><b>4 =</b> 5-port., 2-pos. valve</p> <p><b>5 =</b> 5-port., 3-pos. valve, open center, dual pressure</p> <p><b>6 =</b> 5-port., 3-pos. valve, closed center</p> <p><b>7 =</b> 5-port., 3-pos. valve, 1 connected with 2 &amp; 4, 3 &amp; 5 blocked</p> <p><b>D =</b> Dual 3-port., 2-pos. valve "14" NC, "12" NC</p> <p><b>E =</b> Dual 3-port., 2-pos. valve "14" NC, "12" NC, vacuum service</p> <p><b>P =</b> Indicates blank station plate</p>	<p><b>Voltage</b></p> <p><b>00 =</b> Blank station plate</p> <p><b>61 =</b> 24 VDC</p> <p><b>Options</b></p> <p><b>71W =</b> ATEX 2-22 Further options on request</p> <p><b>Port Type of Bases</b></p> <p><b>0 =</b> Without base</p> <p><b>G =</b> G thread(1/8 only)</p> <p><b>Wiring Option</b></p> <p><b>M =</b> Plug-in, DC with LED</p> <p><b>0 =</b> Blank station plate</p> <p><b>Mounting</b></p> <p><b>00 =</b> Valve unit only</p> <p><b>01 =</b> With sandwich speed control</p> <p><b>Z1 =</b> Manifold block with side and bottom ports, single solenoid, "Z-Board"<sup>™</sup></p> <p><b>Z2 =</b> Manifold block with side and bottom ports, double solenoid, "Z-Board"<sup>™</sup></p> <p><b>Z5 =</b> Z1 with speed control</p> <p><b>Z6 =</b> Z2 with speed control</p> <p><b>R1 =</b> Z1 with ribbon cable connector</p> <p><b>R2 =</b> Z2 with ribbon cable connector</p> <p><b>R5 =</b> Z5 with ribbon cable connector</p> <p><b>R6 =</b> Z6 with ribbon cable connector</p>
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**Ribbon cable option must be used for manifold assemblies that exceed 16 solenoids (7th and 8th digit of valve order code).**

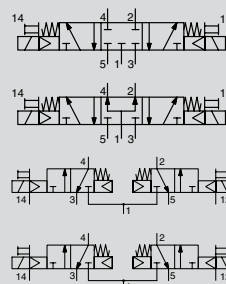
**Symbols**



**BA4** Symbols

**BB4** 5-ported, 2-pos. valve, detented

**BB5** 5-port., 3-pos. valve, open center, dual pressure



**BB6** 5-port., 3-pos. valve, closed center

**BB7** 5-port., 3-pos. valve, 1 connected with 2 & 4, 3 & 5 blocked

**BBD** Dual 3-port., 2-pos. valve "14" NC, "12" NC

**BBE** Dual 3-port., 2-pos. valve vacuum service "14" NC, "12" NC



### 3. How to Order - G3 Electronics

**G3 EP1 00 R 0 71W**

**Electronics Protocols**

- CO1 = CANopen®
- DL1 = DeviceLogix
- DN1 = DeviceNet™
- EC1 = EtherCAT®
- ED1 = EtherNET/IP™ DLR
- EM1 = ModBus®/TCP
- EP1 = EtherNet/IP™
- PL1 = POWERLINK
- PT1 = PROFIBUS-DP®
- PN1 = PROFINET®
- DS2 = Backplane extension Valve Manifold
- DS3 = Backplane extension I/O Assembly

**Number of I/O Modules**

- 00 = 0
- 01 = 1
- 02 = 2
- 03 = 3
- 04 = 4

**Left Mounting**

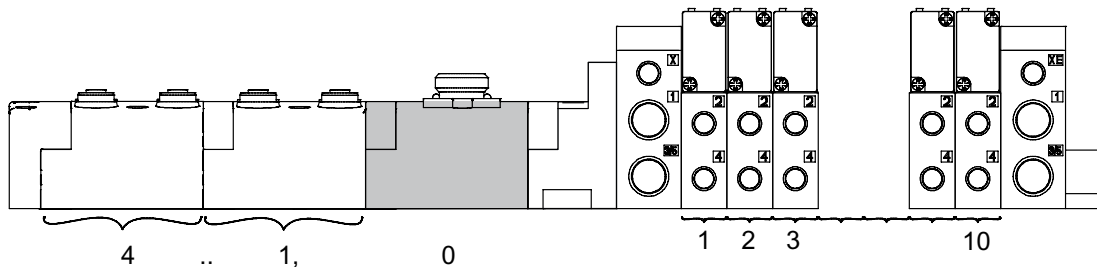
- D = w/ Backplane extension Out
- R = w/ Terminating Resistor

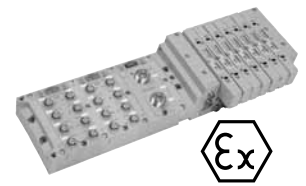
**ATEX options**

- 71W = ATEX version
- D45 = 71W + DRM-DIN Rail Mounting
- D46 = 71W + E23-Fieldbus assembly without valves
- F20 = 71W + E23-Fieldbus assembly without valves + DRM-DIN Rail Mounting

**Modification**

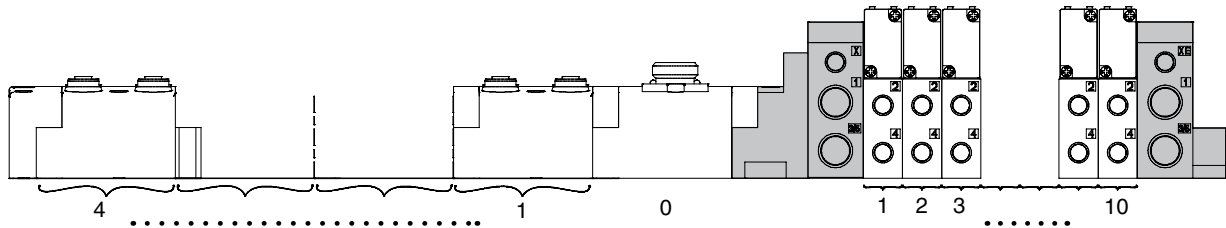
- 0 = Initial release





## Example Order for a Valve Island with G3 Electronics & Discrete Inputs

For valve series 2005



Shaded components are described by the assembly kit (AK) model number (see page 41). The communication module and number of Input modules are described by the Electronic Interface (G3) model number designation (see page 43).

Each valve station is listed in sequential order from left to right when facing the port side of the manifold as shown.

Each discrete Input module (see page 32 for order codes) is listed in sequential order from right to left starting from the communication module as shown.

**NOTE:**

- The number of coils under voltage at the same time depends on the number of input modules associated with the pneumatic distribution.

input modules	501	2005
	max. coils	max. coils
0	18	10
1	16	9
2	14	8
3	12	7
4	10	6
580	18	-
25/37 Pin Sub-D 1-32 Terminal Strip 19 Pin Round Connector	24	14

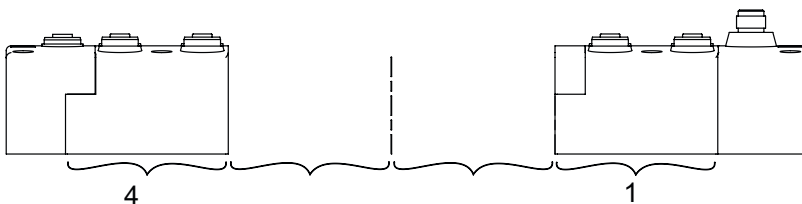
**Note:**

- For a 2x3/2 valve (2 pneumatic functions for each valve), the 2 coils of the valve can be supplied simultaneously, each 3/2 having an independent distribution function.
- For the 5/3, 5/2 monostable or bistable valves (1 pneumatic function for each valve), only one of the 2 coils may be supplied during valve commutation. (Never supply the 2 coils simultaneously).

Configuration example: Fielbus island 2005 with 1 input module

- 1 5/2 bistable valve = 1 pneumatic function ⇒ Max. number of coils that may be supplied simultaneously equals **1**.
- 2 5/3 valves = 2 pneumatic functions ⇒ Max. number of coils that may be supplied simultaneously equals **2**.
- 3 2x3/2 valves = 6 pneumatic functions ⇒ Max. number of coils that may be supplied simultaneously equals **6**.
- Total number of coils that may be supplied simultaneously = 9 ⇒ correct configuration

## Ordering G3 Electronics Assemblies with Inputs Only



1. Refer to the selection table on page 43 to specify the control electronics and Input configuration.
2. Each discrete Input module is listed in sequential order from right to left as shown.
3. A maximum of 4 Input modules are supported by a single communication node. Analog Input & digital Input (NPN & PNP).

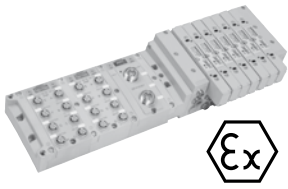
**Example Order -**

**Assembly Kit**

- AK3EP00003GA36
- Station 1 051BB4Z2MG71W61
- Station 2 051BB4Z2MG71W61
- Station 3 051BB4Z2MG71W61
- Station 4 051BB4Z2MG71W61
- Station 5 051BB4Z2MG71W61
- Station 6 051BB4Z2MG71W61
- Station 7 051BB4Z2MG71W61
- ...
- Station 9 051BB4Z2MG71W61
- Electronics G3DN104R071W
- Station 1 240-345

**Example Order - Input assembly with Backplane extension in and backplane extension out modules**

- Electronics G3DS304D071W
- Station 1 240-345
- Station 2 240-345
- ...
- Station 4 240-345



**ATEX**  
**G3 Electronics**

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