Advanced Process Control Instruments Family

Panel Mount (PM)

Desktop (DT)

Harsh Environment Enclosure (HE)

FEATURES

- Three enclosure types: panel mount, desktop, harsh environment
- Modular system with flexible configuration
- Up to 8 weighing / force measurement channels per unit
- Synchronized sampling
- Fast update rate - up to 800 updates per second
- Graphical User Interface - color LCD display with backlight
- Data entry through touch screen and/or functional Keypad
- Integrated flexible digital I/O
- Communication: Ethernet, Profibus, DeviceNet, Modbus, USB, RS485, RS232, Modbus/TCP, EtherNet/IP
- Easy parameter backup and restoration via USB port or internal memory

DESCRIPTION

The Nobel - BLH G4 family of process control instruments offers high speed, high performance control for industrial weighing/force measurement applications plant wide. G4 units set new standards geared for today's application demands and tomorrow's expanding requirements.

A large (5.7 inch) color touch screen facilitates quick, easy operation and simplifies parameter changes. The screen displays up to 4 weighing/force channels simultaneously, allowing the user full control of multiple process vessels. The large touch screen provides good visibility of the process and easy navigation through parameter menus and settings.

G4 instruments accommodate up to seven different, easily installed, modules for advanced performance, more functional channels, custom applications, or repair. This provides customers with a highly flexible, upgradeable, single instrument system capable of weighing up to eight independent vessels or scales. Inputs and outputs can be configured according to customer requirements.

A wide variety of industrial communication interfaces (Ethernet, RS232, RS485), Protocols (Modbus RTU, Modbus TCP, EtherNet/IP) and Fieldbuses (Profibus or Devicenet) are available.

Software upgrades can be downloaded to the instrument from our website, or be transferred to the G4 unit via a standard USB port connection.

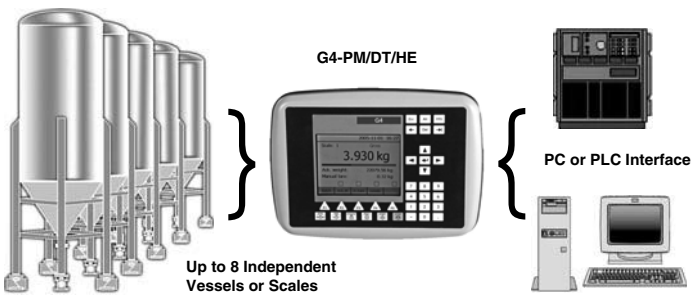
Custom software designed to customer requirements for special applications is available upon request.

G4 instruments have four base mounting options: DIN Rail, Panel, Desktop, and Harsh Environment. The last three are IP65 rated, while the DIN rail-mount is IP20 rated. Units can be configured for either 24 volt DC or 115/230 volt AC operation.

APPLICATIONS

- Process weighing and control
- Force measurement
- Web tension measurement and control
- Automation
- Force vector calculations
- High dynamic force measurement
- High speed batching/ blending systems

CONFIGURATION



SPECIFICATIONS

Enclosure types	**PM** **Panel mount**	**HE** **Harsh Environment**	**DT** **Desktop**
Dimensions WxHxD	294x227x152	343x274x235	355x274x214
Enclosure design	Aluminum housing, plastic panel	Stainless steel housing, plastic panel	Aluminum housing, plastic panel
Environmental			
Temperature range Rated performance Storage	-10 to +50°C -25 to +85°C		
Protection	IP65 (panel)	IP65	IP65
EMC, Safety	CE (Industrial), UL, cUL, FM, cFM	CE (Industrial), UL, cUL	CE (Industrial), UL, cUL
Display	Color TFT LCD screen with backlighting, 5.7" 320x240 pixels		
Keyboard	Touch screen and 34 membrane keys		
Power			
DC SUPPLY module	19-29VDC, 40W		
AC SUPPLY module	115/230VAC 50/60Hz, 40W		
CPU module:			
Interfaces:	Isolated		
RS232 and RS485, ports	For process data and control		
Protocol	Modbus RTU		
Baud rate	Up to 115 kbaud		
USB, supported units	Version 1		
Keyboard	USB keyboard for PC		
Memory stick	USB type for PC For backup and restore of set-up parameters. For change to a new program version		
Ethernet	For process data and control		
Protocol	Modbus TCP and EtherNet/IP		
Field bus options	For process data and control		
Available field busses	Profibus or DeviceNet. Other on demand (contact factory)		

SPECIFICATIONS cont.

WF IN1 (1 input) and WF IN2 (2 inputs) Weight/Force input modules:	
Max. # of load cells	8 per channel
Excitation voltage:	5VDC
A/D conversion:	3.9kHz, 16 000000 units (24 bits)
Input range	±7mV/V
Update rate:	1 up to 300 readings per second
No. of weight channels:	1 (WF IN1) up to 8 (4 WF IN2) channels
Sensitivity:	$0.1\mu V$
Zero drift:	<10nV/V/K
Span drift:	<2ppm/K
Digital I/O	4 inputs, 24V, isolated with common return 2 outputs, 24V, max 100 am, isolated with common return
HS WF2 High speed Weight/Force Input module:	
Max. # of load cells	4 per channel
Excitation voltage:	10VDC
A/D conversion	20kHz, 16 000000 units (24 bits)
Input range	±4.5mV/V
Update rate:	6 up to 800 readings per second
No. of weight channels:	2 or 4 channels
Sensitivity:	$0.1\mu V$
Zero drift:	<10nV/V/K
Span drift:	<2ppm/K
Type	4 inputs, 24V, isolated with common return 2 outputs, 24V, max 100mA, isolated with common return
DIO8 module, Digital Input and Output module:	
Separate I/O module	2 units can be used
Digital I/O	8 inputs, 24V, isolated with common return 8 outputs, 24V, max 100mA, isolated with common return
AOUT1 / AOUT4 Analog output modules:	
Number of channels	1 or 4, separately isolated channels
Resolution	65000 units, 16 bits
Voltage output	0 - 10V, -10 to 10V, >1 kohm load
Current output	4 - 20mA, 0 - 20mA, -12 - 20mA or -20 - 20mA <500 ohm load
Update rate	Analog input update rate, adjustable smoothing filter

Ordering Information

G4-PM-FB-S1-S2-S3-S4-S5-S6-P

G4	Instrument type	G4	
PM	Enclosure type	PM	Panel mount
		DT	Desktop
		HE	Harsh environment
FB	Fieldbus interface	0	None
		P	Profibus
		D	DeviceNet
Si	Slot 1 to 6 type	0	Blank
		2	HSWF2 - High speed weight/force, dual input module
		3	WFIN1 - Weight/Force, single input module
		4	WFIN2 - Weight / Force, dual input module
		6	AOUT1 - Analog output single channel
		7	AOUT4 - Analog output, 4 channels
		8	DIO8 - Digital input and output module
P	Power supply	D	DC power supply
		A	AC power supply
S	Software version	None	Weighing
		F	Force
		S	Special version (Contact factory for option code)

Example: G4 PM 0 48 00 00 DF

Where:

- G4 instrument (G4)
- Panel mount (PM)
- No field bus (0)
- Slot 1 = WF1 (4)
- Slot 2 = DIO8 (8)
- Slot 3 = Blank (0)
- Slot 4 = Blank (0)
- Slot 5 = Blank (0)
- Slot 6 = Blank (0)
- Power = DC supply (D)
- Software = Force

Disclaimer

ALL PRODUCTS, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE.

Vishay Precision Group, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, “VPG”), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

The product specifications do not expand or otherwise modify VPG’s terms and conditions of purchase, including but not limited to, the warranty expressed therein.

VPG makes no warranty, representation or guarantee other than as set forth in the terms and conditions of purchase. **To the maximum extent permitted by applicable law, VPG disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.**

Information provided in datasheets and/or specifications may vary from actual results in different applications and performance may vary over time. Statements regarding the suitability of products for certain types of applications are based on VPG’s knowledge of typical requirements that are often placed on VPG products. It is the customer’s responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. You should ensure you have the current version of the relevant information by contacting VPG prior to performing installation or use of the product, such as on our website at vpgsensors.com.

No license, express, implied, or otherwise, to any intellectual property rights is granted by this document, or by any conduct of VPG.

The products shown herein are not designed for use in life-saving or life-sustaining applications unless otherwise expressly indicated. Customers using or selling VPG products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify VPG for any damages arising or resulting from such use or sale. Please contact authorized VPG personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.