Advanced Process Control Instruments Family

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

Panel Mount (PM)

Harsh Environment Enclosure (HE)

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

DESCRIPTION

The BLH Nobel 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 in) 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.

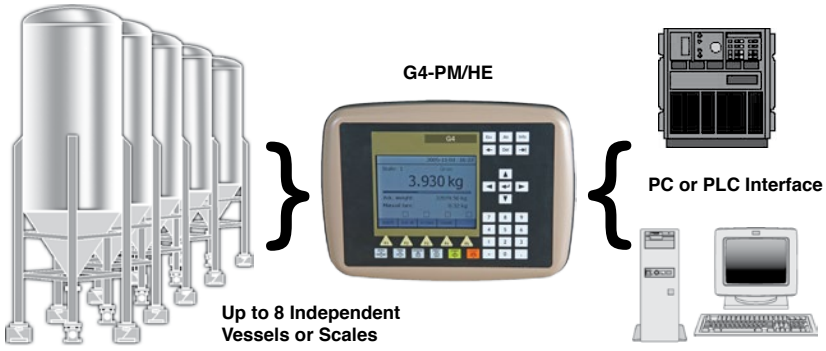
A wide variety of industrial communication interfaces (Ethernet, RS232, RS485), Protocols (Modbus RTU, Modbus TCP, EtherNet/IP) and Fieldbuses (Profibus or Devicenet) are available.

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 VDC or 115/230 VAC operation.

CONFIGURATION



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SPECIFICATIONS

PARAMETER	VALUE	
Enclosure types	**PM Panel mount**	**HE Harsh Environment**
Dimensions W×H×D	294×227×152 mm	343×274×235 mm
Enclosure design	Aluminum housing, plastic panel	Stainless steel housing, plastic panel
ENVIRONMENTAL		
Temperature range – Rated performance	–10 to +50°C	
Temperature range – Storage	–25 to +85°C	
Protection	IP65 (panel)	IP65
EMC, Safety	CE (Industrial), UL, cUL, FM, cFM	CE (Industrial), UL, cUL
Display	Color TFT LCD screen with back-lighting, 5.7 in 320×240 pixels	
Keyboard	Touch screen and 34 membrane keys	
POWER		
DC SUPPLY module	19–29 VDC, 40 W	
AC SUPPLY module	115/230 VAC 50/60 Hz, 40 W	
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)	

PARAMETER	VALUE
WF IN1 (1 INPUT) AND WF IN2 (2 INPUTS) WEIGHT/FORCE INPUT MODULES	
Max. no. of load cells	8 per channel
Excitation voltage	5 VDC
A/D conversion	3.9 kHz, 16,000,000 units (24 bits)
Input range	±7 mV/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 µV
Zero drift	<10 nV/V/K
Span drift	<2 ppm/K
Digital I/O	4 inputs, 24 V, isolated with common return 2 outputs, 24 V, max. 100 mA, isolated with common return
HS WF2 HIGH SPEED WEIGHT/FORCE INPUT MODULE	
Max. no. of load cells	4 per channel
Excitation voltage	10 VDC
A/D conversion	20 kHz, 16,000,000 units (24 bits)
Input range	±4.5 mV/V
Update rate	6 up to 800 readings per second
No. of weight channels	2 or 4 channels
Sensitivity	0.1 µV
Zero drift	<10 nV/V/K
Span drift	<2 ppm/K
Type	4 inputs, 24 V, isolated with common return 2 outputs, 24 V, max. 100 mA, 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, 24 V, isolated with common return 8 outputs, 24 V, max. 100 mA, isolated with common return
AOUT1 / AOUT4 ANALOG OUTPUT MODULES	
Number of channels	1 or 4, separately isolated channels
Resolution	65,000 units, 16 bits
Voltage output	0 to 10 V, –10 to 10 V, >1 kΩ load
Current output	4 to 20 mA, 0 to 20 mA, –12 to 20 mA or –20 to 20 mA <500 Ω load
Update rate	Analog input update rate, adjustable smoothing filter

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ORDERING INFORMATION

Part Number Nomenclature: G4-PM-FB-S1-S2-S3-S4-S5-S6-P

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

Example of actual part number: G4-PM-0-4-8-0-0-0-0-D-F

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