

Advanced Process Control Instrument Family

DIN-Rail Mount Unit



FEATURES

- DIN Rail mount
- Modular system with flexible configuration
- Up to 6 weighing / force measurement channels per unit
- Synchronized sampling of all channels
- Fast update rate - up to 800 updates per second
- Easy access to service and control panel
- 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-RM family of process control instruments offers high speed, high performance control for industrial weighing and force measurement applications plant wide. G4-RM units set new standards geared for today's application demands and tomorrow's expanding requirements.

G4-RM instruments accommodate up to three 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 six independent vessels or scales. For web tension applications, up to six zones (rolls) can be monitored simultaneously. 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-RM unit via a standard USB port connection.

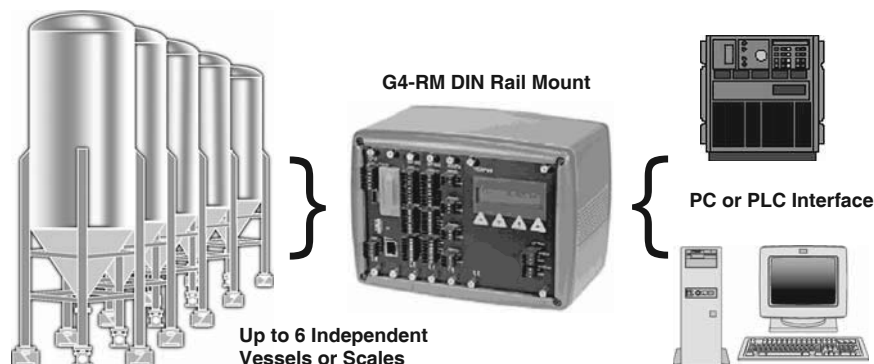
Custom software designed to customer requirements for special applications is available upon request.

DIN Rail mount units are rated IP20. Power supply is 24V DC.

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 | DIN Rail mount |
| Dimensions WxHxD | 229 x168 x145mm |
| Enclosure design | Aluminum housing |
| Environmental | |
| Temperature range | |
| Rated performance | -10 to +50°C |
| Storage | -25 to +85°C |
| Protection | IP20 |
| EMC, RF | CE (Industrial), UL, cUL |
| Display | 2 x16 character LCD with backlighting |
| Keyboard | 4 membrane keys |
| | |
| Power | DC SUPPLY module |
| Voltage and Power | 19-29VDC, 40W |
| | |
| CPU module: | |
| Interfaces: | All are 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 or Industrial Ethernet, Optional | For process data and control |
| Available field busses | Profibus or DeviceNet. CANbus, Ethernet/IS, ProfiNet and other on demand! |
| 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: | Up to 6 channels |
| Sensitivity: | 0.1µV |
| Zero drift: | <10nV/V/K |
| Span drift: | <2ppm/K |
| Digital I/O | 4 inputs, 24V, isolated with common return 2 outputs, 24V, max 100mA, isolated with common return |

SPECIFICATIONS cont.

| 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: | 0.1µV |
| Zero drift: | <10nV/V/K |
| Span drift: | <2ppm/K |
| Digital I/O | 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 |
| Type | 8 inputs, 24V, isolated with common return 8 outputs, 24V, max 100mA, isolated with common return |
| AOUT1 (Q4) / 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, >1kohm 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-DR-FB-S1-S2-S3-P

| | | | |
|----|--------------------------|----|------------------------------------------------------|
| G4 | Instrument type | G4 | |
| DR | Enclosure type | DR | DIN Rail mount |
| FB | Fieldbus interface | 0 | None |
| | | P | Profibus |
| | | D | DeviceNet |
| Si | Slot 1 to 3 type | 0 | Blank |
| | | 1 | HSWF1 - High speed weight/force, single input module |
| | | 2 | HSWF2 - High speed weight/force, dual input module |
| | | 3 | WFIN1 - Weight/Force, single input module |
| | | 4 | WFIN2 - Weight / Force, dual input module |
| | | 5 | TBD |
| | | 6 | AOUT1 - Analog output single channel |
| | | 7 | AOUT4 - Analog output, 4 channels |
| | | 8 | DIO8 - Digital input and output module |
| V | User interface and power | V | Viewpan, 24VDC |

Example: G4-DR-0-4-8-0-V

Where:

- G4 instrument (G4)
- DIN Rail mount (DR)
- No field bus (0)
- Slot 1 = WF1 (4)
- Slot 2 = DIO8 (8)
- Slot 3 = Blank (0)
- Power = Viewpan (V)

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, "Vishay Precision Group"), 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 Vishay Precision Group's terms and conditions of purchase, including but not limited to, the warranty expressed therein.

Vishay Precision Group 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, Vishay Precision Group 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 Vishay Precision Group's knowledge of typical requirements that are often placed on Vishay Precision Group 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.

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

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