

DATASHEET

Modbus TCP/IP to HART Analog Gateway

5208-MNET-HART / 5228-MNET-HART



Modbus TCP/IP to HART Analog Gateway

5208-MNET-HART / 5228-MNET-HART

The HART Analog Input Gateway provides a clean way to integrate HART Analog instruments with existing controller platforms on a Modbus TCP/IP network. The gateway works well for field applications where it can be installed closer to HART instrument, saving on copper cable and installation costs. The gateway also saves valuable rack space for other in-chassis options. The gateways provide extremely fast channel update times (all channels updating simultaneously in 67 ms) making the HART Analog Input Gateway ideal for applications where high speeds and point-to-point connectivity are required. These gateways are available in 4 and 8 Analog input channel options.

Modbus TCP/IP

The Modbus TCP/IP driver interfaces with a common internal database in the module. This permits the sharing of data between the Modbus TCP/IP and other networks and devices.

Modbus TCP/IP Server

| | |
|---------|--|
| General | Server supports up to 5 independent connections each to Modbus TCP/IP clients on Service Port 502 using the standard MBAP protocol, and Service Port 2000. |
|---------|--|

| | |
|-------------------------|--|
| Configurable Parameters | Module IP Address Modbus address offsetting |
|-------------------------|--|

Modbus TCP/IP Client

| | |
|---------|--|
| General | Actively reads and writes data with Modbus TCP/IP compatible devices. One client connection (up to 100 servers/devices with 100 commands) |
|---------|--|

| | |
|-------------------------|--|
| Configurable parameters | Number of active commands, Min Command Delay, Response Timeout, Retry Count, Command Error Pointer |
|-------------------------|--|

| | |
|--------------|--|
| Command List | Up to 100 fully configurable commands on the Client port |
|--------------|--|

HART Analog

The HART Analog Protocol exists in 4 and 8 channel implementations. This driver can be configured on an individual channel basis to operate as a HART Master Station and supports all the available HART commands including Universal, Common Practice and Device Specific Commands. Each HART channel is independently configured to interface with the internal database in the module.

The auto-poll mode allows the module to automatically collect data from each HART instrument on the channel and store the data in the module's database without the

use of user commands. The module automatically generates HART commands 0, 3, 13, 14 and 15.

General Parameters

| | |
|-------------------------------------|---|
| Communication parameters | Number of HART Preambles: 2 to 50 Enable Handheld: Y or N Primary Master: Y or N |
| Configurable Parameters per Channel | Auto-Poll Enable, Short / Long Address Retries, Retries After Error Poll Time After Error, Number of Commands, Slave List Error Pointer |

HART Driver

| | |
|-------------------------|--|
| Command List | Up to 100 fully configurable commands per channel |
| Polling of command list | User configurable polling of commands, including disabled, continuous, on change of data (write only) and dynamically user or automatic enabled. |

Isolated HART Analog Input Specifications

| | |
|-----------------------------|--|
| Input Range | Current: 4 to 20mA with HART |
| Resolution | 16bits |
| Input Filter | First Order Sync: 10 Hz |
| Current Input Resistance | 247.6 ohms +/- 1% |
| Open circuit detection time | 1/2 second maximum |
| Over current | +/-40mA continuous, maximum |
| Common Mode Noise Rejection | 105dB |
| Calibrated Accuracy @ 25°C | 4 to 20 mA: 0.05% of reading |
| Input Isolation Voltage | 2500 V RMS per UL 1577, transformer isolated |
| 24V DC Isolation Voltage | 1500 VDC |

HART® is a registered trademark of the HART Communication Foundation

Configuration

ProSoft Configuration Builder (PCB) provides a quick and easy way to manage module configuration files and view module and network diagnostics. PCB is not only a powerful solution for new configuration files, but also allows you to import information from previously installed (known working) configurations to new projects.

General Specifications

The ProLinx® Communication Modules provide connectivity for two or more dissimilar network types. The modules, encased in sturdy extruded aluminum, are stand-alone DIN-rail mounted protocol gateways, providing communication between many of the most widely used protocols in industrial automation today.

Hardware Specifications

| Specification | Description |
|--------------------------------|---|
| Power Supply Input | 24 VDC nominal 18 to 32 VDC allowed Positive, Negative, GND Terminals 2.5 mm screwdriver blade |
| Current Load | 1-4 ch: 190 mA max@ 32 VDC max 5-8 ch: 250 mA max@ 32 VDC max |
| Operating Temperature | -20 to 50°C (-4 to 122°F) |
| Storage Temperature | -40 to 85°C (-40 to 185°F) |
| Relative Humidity | 5% to 95% (non-condensing) |
| Dimensions | Standard: 5.20H x 2.07W x 4.52D in. (13.2cmH x 5.25cmW x 11.48cmD) Extended: 5.20H x 2.73W x 4.52D in. (13.2cmH x 6.934cmW x 11.48cmD) |
| LED Indicators | Power and Module Status Application Status HART Channel Activity (Green) |
| Configuration Serial Port | DB-9M RS-232 only No hardware handshaking |
| HART Interface | Four or eight HART Point-to-Point channels (5x08 = 4 inputs; 5x28 = 8 inputs) Screw terminals for each channel |
| Electrical Isolation | 1500 Vrms at 50 Hz to 60 Hz for 60 s, applied as specified in section 5.3.2 of IEC 60950: 1991 |
| Common Mode Rejection | 105db @ DC |
| Over current | +/- 40mA continuous, maximum |
| Overvoltage Protection | All HART Inputs: 90V 3-electrode gas discharge tube, surge arrester: 30V MOV for voltage protection, 300mA poly switch resettable fuse for over current protection |
| Accuracy | 4 to 20 mA: 0.05% of reading @ 25°C |
| 24VDC loop output power | 1 Internal 24VDC supply for each 4 channels. Screw terminals for Isolated 24VDC loop power May be used to provide HART loop power |
| Shipped with Each Unit | Mini-DIN to DB-9M serial cables 4 ft RS-232 configuration cable 2.5mm screwdriver CD (docs and Configuration utility) RS-422/485 DB-9 to Screw Terminal Adaptor (1 or 4, depending on ports, serial protocol modules only) HART Terminal Block connector |
| Certifications | CE and ATEX |
| MTBF | 937,320 Hours |
| 5-Year Performance Probability | 95.43% |

Additional Products

ProSoft Technology® offers a full complement of hardware and software solutions for a wide variety of industrial communication platforms.

Compatible products in this product line also include:

EtherNet/IP to HART Analog Gateway

(5208-DFNT-HART / 5228-DFNT-HART)

DF1Master/Slave to HART Analog Gateway

(5108-DFCM-HART / 5128-DFCM-HART)

Visit our web site at <http://www.prosoft-technology.com> for a complete list of products.

Ordering Information

To order this product, please use the following:

5208-MNET-HART / Modbus TCP/IP to HART Analog
5228-MNET-HART Gateway

To place an order, please contact your local ProSoft Technology distributor. For a list of ProSoft Technology distributors near you, go to <http://www.prosoft-technology.com>

Distributors:

Place your order by email or fax to:

North American / Latin American / Asia Pacific

orders@prosoft-technology.com,
fax to +1 661.716.5101

Europe

europe@prosoft-technology.com,
fax to +33 (0) 5.61.78.40.52

Specifications are subject to change without notice.

Copyright © ProSoft Technology, Inc. 2015.

All Rights Reserved. 2/25/15