

HART Interface Card

The HART® Interface Card provides communications between a ROC300-Series Remote Operations Controller and other devices using the Highway Addressable Remote Transducer (HART) protocol. The card mounts inside the case of a ROC306 or ROC312.

The HART card installs “piggy-back” onto a ROC communications card, which is required to permit installation. It communicates to HART devices through one or more of the three built-in analog inputs on the ROC. Each of these inputs can be configured to operate in either the point-to-point mode or the multi-drop mode.

In the point-to-point mode, digital communications are superimposed on the 4 to 20 milliAmp analog signal (which can still measure the process variable) through a built-in analog input. This mode allows communications with one HART device per built-in analog input.

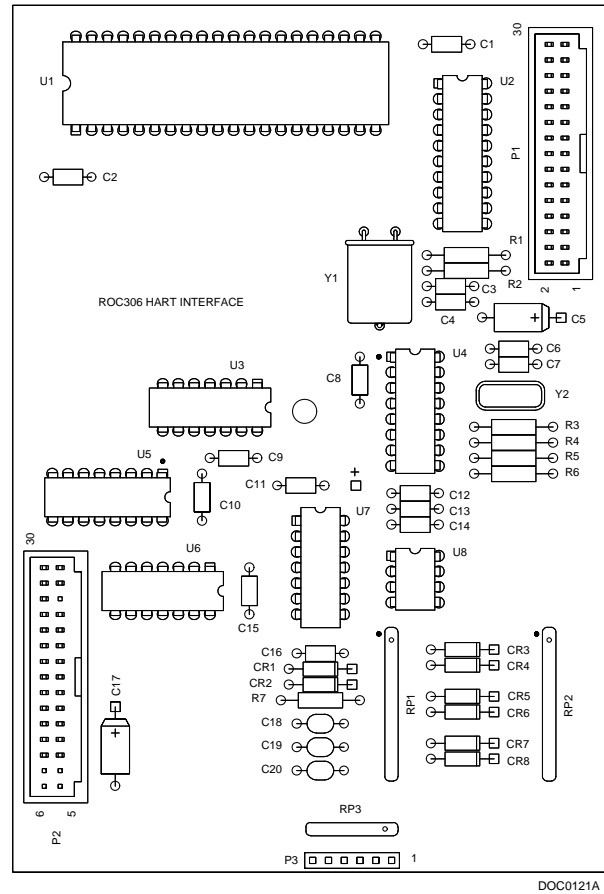
In the multi-drop mode, as many as five HART devices can be connected (in parallel) to a single built-in analog input. Like the point-to-point mode, digital communications are superimposed on the 4 to 20 milliAmp signal; however, the analog signal is used only to measure the current consumed by the multi-drop loop. With all three built-in analog inputs in the multi-drop mode, the ROC can support a maximum of 15 HART devices.

The following items are also required to support the HART interface:

- ◆ The HART Interface Program (see Specification Sheet 8:HIP), which must be downloaded into ROC user memory.
- ◆ ROCLINK Configuration Software for DOS (Version 2.0 or greater) or ROCLINK for Windows Configuration Software (Version 1.01 or greater).
- ◆ ROC306/ROC312 main board manufactured in 1994 or later (MPU part number W48032).
- ◆ A ROC communications card, such as the EIA-232 Serial Communications Card.

The ROC312 controller should not have a HART Interface Module.

The ROC306 or ROC312 equipped with the HART Interface Card and HART Interface Program is considered to be a HART host interface with a Class 1 Conformance classification. In addition, several commands of upper classifications are supported. The supported commands conform to HART Universal Command Specification Revision 5.1 and Common Practice Command Specification Revision 7, (HCF SPEC 127 & 151). Refer to www.hartcomm.org for more information on the specifications.



Hart Interface Card

Specifications

FIELD WIRING TERMINALS

T: Loop Power (+T)
“+”: HART Signal Input
“-”: Common

CHANNELS

Three HART-compatible channels, which communicate via digital signals only (A1, A2, and A3). If sensing the HART signal, loop power is drawn from the A1 channel.

Mode: Half-duplex.

Data Rate: 1200 bps asynchronous.

Parity: Odd.

Format: 8 bit.

Modulation: Phase coherent, Frequency Shift Keyed (FSK) per Bell 202.

Carrier Frequencies: Mark 1200 Hz, Space 2200 Hz, ± 0.1%.

HART DEVICES SUPPORTED

Point-to-Point Mode: Three HART devices (one per channel) (A1, A2, and A3).

Multi-drop Mode: 5 per channel (A1, A2, and A3). Up to 15 total.

DIMENSIONS

30 mm H by 95 mm W by 141 mm L (1.2 in. H by 3.75 in. W by 5.55 in. L).

WEIGHT

80 g (3 oz) nominal.

POWER REQUIREMENTS

4.75 to 5.25 Vdc, 0.1 W maximum (supplied by ROC).

ENVIRONMENTAL

Meets the Environmental specifications of the ROC in which the card is installed, including Temperature and Surge specifications.

APPROVALS

Approved by CSA for hazardous locations Class I, Division 2, Groups A, B, C, and D.

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