

HART Protocol Converter



Overview

The HART Protocol Converter links up to four HART-compatible field instruments to a serial monitoring or control system, enabling transparent HART communication and Modbus RTU access to instrument data.

The converter uses an ARM microprocessor and a dedicated HART modulation and demodulation chip.

HART digital communication is carried over a 4–20 mA current loop using Bell 202 frequency shift keying (FSK), allowing instrument data to be exchanged without interrupting the analog measurement signal.

The converter maps all process variables (PV, SV, TV, QV), diagnostic data, and device status directly into Modbus registers. It enables seamless two-way communication without changing existing 4-20 mA wiring.

Key features

- Links up to four HART instruments across all models
- Supports transparent HART communication and Modbus RTU
- Provides RS232 and/or RS485 ports according to model
- Configurable communication parameters and custom commands
- Includes setup software for configuration and commissioning

Technical parameters

Parameter	Specification
Field instrument protocol	HART 7.0 support, backward compatible
Maximum HART instruments	Up to 4 Hart devices in direct wiring
HART signal method	Bell 202 FSK over a 4–20 mA loop
Serial interfaces	RS232 and/or RS485, according to model
Communication options	Transparent HART transmission; Modbus RTU
Power Supply	Regulated 12–24 V DC; power source rated above 200 mA
Operating temperature	–20 to +80 °C
Enclosure dimensions	135 × 70 × 45 mm

Selection

Model	Output Ports
GRT-2	One RS485 port
GRT-4	One RS232 port and one RS485 port
GRT-6	Two RS485 ports

