Making Data Acquisition Easy
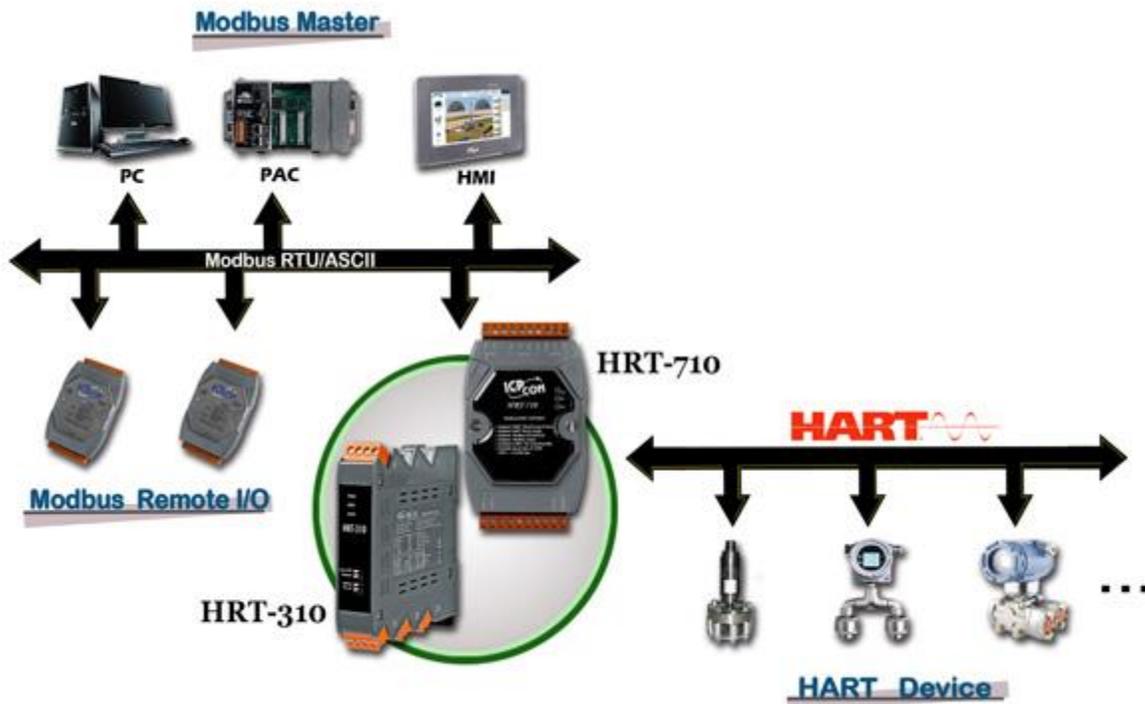
Modbus to HART Protocol Gateway

HART is one of several different communication protocols used in plant automation, industrial process measurement and control applications. Each has its strengths, but HART is the best overall solution for obtaining value-added device and diagnostic information in digital form while retaining compatibility with legacy 4-20 mA automation architectures.

Modbus and HART are two famous protocols and widely in the fields of factory and process automation. The HRT-710 / HRT-310 Gateways are specially designed for master devices using HART protocol; allowing Modbus masters to access HART end devices. These HART devices can be a transmitter, an actuator and so forth. In addition, we provide the software utility, HG_Tool, for module configuration and device diagnosis. By using these modules, users can integrate their HART devices into a Modbus network easily and quickly.

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The HRT-711 module is a Modbus/TCP and Modbus/UDP to HART gateway. By utilizing this module, users can integrate their HART devices into Modbus network easily. It allows the Modbus/TCP Master to access the HART Slave devices.

These HART devices may be a transmitter, an actuator, a current output device or so forth. With the HRT-711, users can integrate their HART devices into Modbus network easily. Therefore, HRT-711 can be a powerful gateway for data exchange between Modbus and HART networks. Implementing a rugged industrial design, the HRT-711 can be applied in various harsh environments. This design makes users to apply widely application for the remote data acquisition, control, process automation, and factory automation, etc.


HART buses can operate in one of the two network configurations: point to point and multi-drop. In point to point mode, the analog signal is used to communicate one process variable and the digital signal gives access to secondary variables and other data that can be used for operations, commissioning, maintenance and diagnostic purposes. Only one HART slave device can exist in HART bus and the polling address must be zero.

In multi-drop mode, all process values are transmitted digitally. The polling address of all field devices must be bigger than 0 and between 1 ~ 15. The current through each device is fixed to a minimum value (typically 4 mA). The maximum HART device number in HART bus is up to 15.

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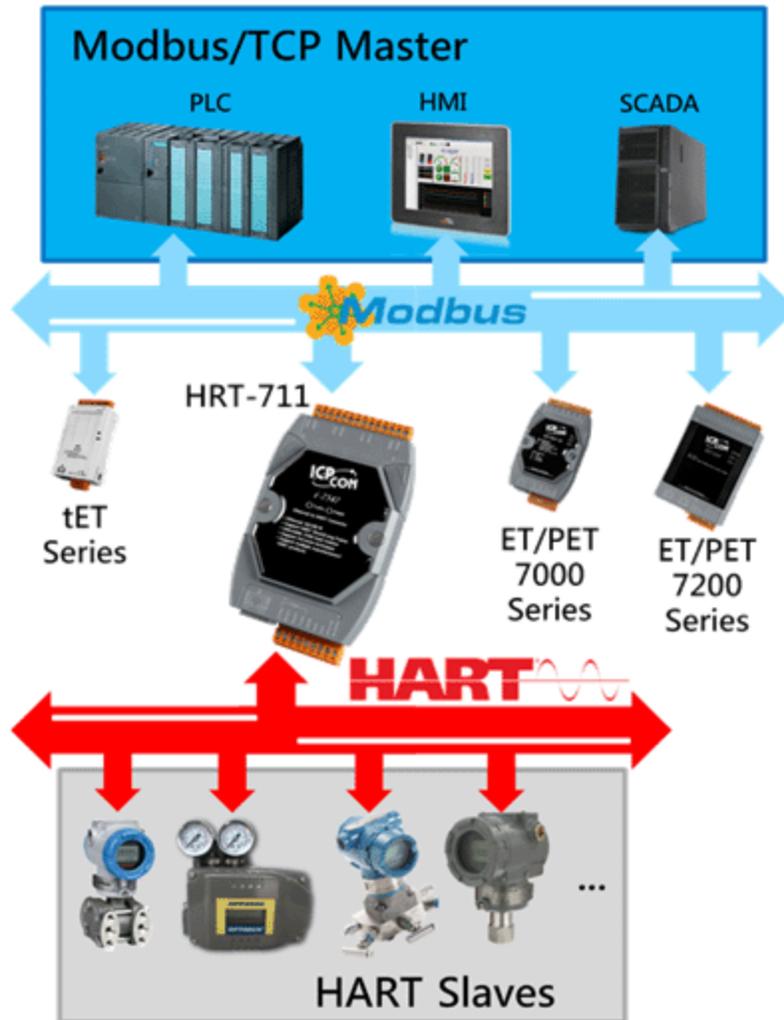
If you have other Modbus or HART communication requirements or have some questions, we can certainly help you to choose the best solution. Please call our technical support team at (310) 517-9888 X102