



Making Data Acquisition Easy

CAGE/NCAGE Code: 3FNFO

White Paper

Multiple Modbus RTU Masters Sharing One Slave

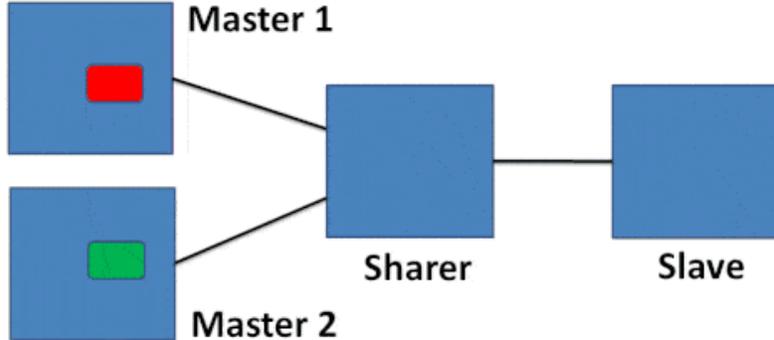
Modbus was developed in 1979 by Modicon for use with their PLC's. Because it is easy to use and royalty free, it has been adopted by a majority of other PLC, HMI, and industrial component manufacturers. It has become the most widely used protocol in the industrial market.



For all of its benefits, it has one glaring downfall; only 1 master device can be allowed on the serial port.

To cater to this problem, ICP DAS USA has developed the [TSH](#) series modules that allow multiple Modbus master to share the same slave device. Their main feature is to allow two master devices to communicate to a single Modbus slave or to multiple Modbus slaves daisy-chained via RS-485.

This is done as the illustration below shows. The [TSH](#) module will allow the first command received through to the slave module and buffer the second command until the first Modbus master device sent its response or the command times out. Then, it will process the second command.



The TSH also has the following features that provide for additional flexibility:



- 1) The TSH can act as a Modbus ASCII to Modbus RTU gateway for different ports.



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- 2) Each Com port can be configured with different communication settings including baud rate.
- 3) In Raw mode, it can be used as a simple baud rate converter for standard RS-232 or RS-485



communication.

- 4) Dual port versions are also available. This can help save costs on cabling.



If you have any questions about this module or an application, please contact our technical support team at (310) 517-9888 x 102 or tech@icpdas-usa.com.