

Serial Port Protocol Status Module

The Serial Port Protocol Status module provides diagnostic data about a specific serial port. The status information is assigned to ten consecutive input registers which act as counters for the diagnostic data. The input registers are updated continuously with data concerning the protocol status of the serial port.

To clear the counters use the [Clear Serial Port Protocol Counters](#) register assignment.

Module Properties

Field	Description	
Module Name	Serial Port Protocol Status Module	
Comm Interface	Communication interface to monitor for Serial Port Protocol Status diagnostic data. Depending on the controller type the selection is one of: Com1, Com2, Com3 and Com4.	
AI Start Register	First register of any unused block of 10 consecutive analog input registers. Default register: 30001. First register of any unused block of 9 consecutive input registers. Default register: 30001.	
	Start Register + 0 (Modbus command errors)	This counts the number of received messages containing an unsupported Modbus function code. It also counts the number of otherwise valid commands that are rejected because of a controller lock.
	Start Register + 1 (Modbus format errors)	This counts the number of received messages that don't have the correct framing or internal formatting. Basically this is a count of how many messages are garbled. For Modbus ASCII this includes: • start of message missing • end of message missing • unexpected start of message inside message • unexpected end of message • invalid characters in message For Modbus RTU this includes: • received data is too short to be a message • received data is too long to be a message (it didn't fit in the 256 byte buffer)
	Start Register + 2 (Modbus checksum errors)	This counts the number of received messages with a bad checksum.
	Start Register + 3 (Modbus slave commands received)	This counts the number of slave commands received.
	Start Register + 4 (Modbus master commands sent)	This counts the number of master commands sent.
	Start Register + 5 (Modbus master responses received)	The number of master responses received
	Start Register + 6 (Modbus slave responses sent)	The number of slave responses sent
	Start Register + 7 (Protocol master command status)	Status codes are shown below: 0 = message sent, waiting for response 1 = response received, no error occurred 2 = not used 3 = bad value in function code register 4 = bad value in slave controller address register 5 = bad value in slave register address 6 = bad value in length register 7 = serial port or protocol is invalid 8 = not used 9 = specified protocol is not supported by this controller 11 = an unexpected length response was received. This means corrupt messages for regular Modbus. Check the format and checksum counters. For Enron Modbus, this is normal. 12 = response timeout

		24 = exception response: invalid function code 25 = exception response: invalid address 26 = exception response: invalid value 27 = protocol is invalid or serial port queue is filled 28 = slave and master stations are equal; they need to be different 29 = exception response: slave device communication unsuccessful 30 = exception response: slave device busy
	Start Register + 8 (Modbus stored messages)	The number of messages stored (received) for forwarding
	Start Register + 9 (Modbus forwarded messages)	The number of messages forwarded (transmitted)