

**SmartCount ModBus TCP Specification**  
**Firmware Version 5.2.0.0 and Above**

**Protocol** - ModBus TCP

**Protocol Documentation** - [http://www.eecs.umich.edu/~modbus/documents/Open\\_ModbusTCP\\_Standard.doc](http://www.eecs.umich.edu/~modbus/documents/Open_ModbusTCP_Standard.doc)

**Port** - 502

**Supported Function Code** - 0x03 Read Holding Registers

**Preface** - SmartCount units contain a ModBus TCP Server listening on TCP Port 502. There are 28 accessible read-only Data Tags that can be accessed utilizing ModBus Function Code 3 (Read Holding Registers). Each tag consumes 2 registers in Big-Endian format (High-Low). The below table describes each Data Tag and Register location.

TAGNAME	REGISTER	DATATYPE	DATA TAGS		FORMAT	Firmware
			DESCRIPTION			
Current Sensor 1 Count	40001-40002	32BIT UNSIGNED INTEGER	Actual Counts on SmartCount input 1 since the last data reset		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	3.1.0.0
Current Sensor 2 Count	40003-40004	32BIT UNSIGNED INTEGER	Actual Counts on SmartCount input 2 since the last data reset		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	3.1.0.0
Current Target Count	40005-40006	32BIT UNSIGNED INTEGER	Target Counts since the last data reset		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	3.1.0.0
Current Distance	40007-40008	32BIT UNSIGNED INTEGER	Distance since the last data reset		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	3.1.0.0
Current Run Time	40009-40010	32BIT UNSIGNED INTEGER	Run Time in seconds since the last data reset		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	3.1.0.0
Current Down Time	40011-40012	32BIT UNSIGNED INTEGER	Down time in seconds since the last data reset		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	3.1.0.0
Current Status Time 0	40013-40014	32BIT UNSIGNED INTEGER	Down time in seconds of selectable status 0 since the last data reset		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	3.1.0.0
Current Status Time 1	40015-40016	32BIT UNSIGNED INTEGER	Down time in seconds of selectable status 1 since the last data reset		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	3.1.0.0
Current Status Time 2	40017-40018	32BIT UNSIGNED INTEGER	Down time in seconds of selectable status 2 since the last data reset		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	3.1.0.0
Current Status Time 3	40019-40020	32BIT UNSIGNED INTEGER	Down time in seconds of selectable status 3 since the last data reset		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	3.1.0.0
Current Status Time 4	40021-40022	32BIT UNSIGNED INTEGER	Down time in seconds of selectable status 4 since the last data reset		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	3.1.0.0
Current Status Time 5	40023-40024	32BIT UNSIGNED INTEGER	Down time in seconds of selectable status 5 since the last data reset		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	3.1.0.0
Current Status Time 6	40025-40026	32BIT UNSIGNED INTEGER	Down time in seconds of selectable status 6 since the last data reset		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	3.1.0.0
Current Status Time 7	40027-40028	32BIT UNSIGNED INTEGER	Down time in seconds of selectable status 7 since the last data reset		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	3.1.0.0
Current Status Time 8	40029-40030	32BIT UNSIGNED INTEGER	Down time in seconds of selectable status 8 since the last data reset		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	3.1.0.0
Current Actual Rate	40031-40032	32BIT UNSIGNED INTEGER	Snapshot of the exact actual rate at the time of data stream		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	3.1.0.0
Current Target Rate	40033-40034	32BIT UNSIGNED INTEGER	Snapshot of the exact target rate at the time of data stream		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	3.1.0.0
Current Average Rate	40035-40036	32BIT UNSIGNED INTEGER	Snapshot of the exact average rate at the time of data stream		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	3.1.0.0
Current Total	40037-40038	32BIT UNSIGNED INTEGER	Snapshot of the current total at the time of data stream		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	3.1.0.0
Current Actual Total	40039-40040	32BIT UNSIGNED INTEGER	Snapshot of the actual total at the time of data stream		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	3.1.0.0
Current Count Percent	40041-40042	32BIT UNSIGNED INTEGER	Snapshot of the count percent at the time of data stream		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	3.1.0.0
Current Net Percent	40043-40044	32BIT UNSIGNED INTEGER	Snapshot of the net percent at the time of data stream		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	3.1.0.0
Current Percent Complete	40045-40046	32BIT UNSIGNED INTEGER	Snapshot of the percent complete at the time of data stream		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	3.1.0.0
Current Rate Percent	40047-40048	32BIT UNSIGNED INTEGER	Snapshot of the rate percent at the time of data stream		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	3.1.0.0
Current Net	40049-40050	32BIT UNSIGNED INTEGER	Snapshot of Sensor 1 Count Minus Sensor 2 count at the time of the data stream		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	3.1.0.0
Current Total Time	40051-40052	32BIT UNSIGNED INTEGER	Total time in seconds since last data reset.		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	3.1.0.0
Current Pause Time	40053-40054	32BIT UNSIGNED INTEGER	Pause time in seconds since last data reset.		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	3.1.0.0
Current Setup Time	40055-40056	32BIT UNSIGNED INTEGER	Setup time in seconds since last data reset.		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	3.1.0.0
Current Setup Time	40057-40058	32BIT UNSIGNED INTEGER	Setup time in seconds since last data reset.		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	3.1.0.0
Current Calculated Field 1	40059-40060	32BIT UNSIGNED INTEGER	Custom Computed Field 1		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	5.2.0.0
Current Calculated Field 2	40061-40062	32BIT UNSIGNED INTEGER	Custom Computed Field 2		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	5.2.0.0
Current Calculated Field 3	40063-40064	32BIT UNSIGNED INTEGER	Custom Computed Field 3		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	5.2.0.0
Current Calculated Field 4	40065-40066	32BIT UNSIGNED INTEGER	Custom Computed Field 4		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	5.2.0.0
Current Calculated Field 5	40067-40068	32BIT UNSIGNED INTEGER	Custom Computed Field 5		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	5.2.0.0
Current Calculated Field 6	40069-40070	32BIT UNSIGNED INTEGER	Custom Computed Field 6		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	5.2.0.0
Current Calculated Field 7	40071-40072	32BIT UNSIGNED INTEGER	Custom Computed Field 7		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	5.2.0.0
Current Calculated Field 8	40073-40074	32BIT UNSIGNED INTEGER	Custom Computed Field 8		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	5.2.0.0
Current Status Time 9	40075-40076	32BIT UNSIGNED INTEGER	Down time in seconds of selectable status 9 since the last data reset		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	5.2.0.0
Current Status Time 10	40077-40078	32BIT UNSIGNED INTEGER	Down time in seconds of selectable status 10 since the last data reset		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	5.2.0.0
Current Status Time 11	40079-40080	32BIT UNSIGNED INTEGER	Down time in seconds of selectable status 11 since the last data reset		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	5.2.0.0
Current Status Time 12	40081-40082	32BIT UNSIGNED INTEGER	Down time in seconds of selectable status 12 since the last data reset		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	5.2.0.0
Current Status Time 13	40083-40084	32BIT UNSIGNED INTEGER	Down time in seconds of selectable status 13 since the last data reset		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	5.2.0.0
Current Status Time 14	40085-40086	32BIT UNSIGNED INTEGER	Down time in seconds of selectable status 14 since the last data reset		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	5.2.0.0
Current Status Time 15	40087-40088	32BIT UNSIGNED INTEGER	Down time in seconds of selectable status 15 since the last data reset		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	5.2.0.0
Current Status Time 16	40089-40090	32BIT UNSIGNED INTEGER	Down time in seconds of selectable status 16 since the last data reset		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	5.2.0.0
Current Starting Count	40091-40092	32BIT UNSIGNED INTEGER	User set value on the settings screen (1 through 999999)		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	5.2.0.0
Current Rate Specifier	40093-40094	32BIT UNSIGNED INTEGER	User set value on the settings screen (2=second,1=minute,0=hour)		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	5.2.0.0
Planned Down Time	40093-40094	32BIT UNSIGNED INTEGER	User set value on the settings screen (0 through 999)		Big-Endian, First 16bit Register Contains High Word, Second 16bit Register Contains Low Word	5.2.0.0