



Quick Install Guide

This Quick Install Guide is applicable for SmartTrak® models: 100, 101, and 140.

A copy of this Quick Install Guide, the SmartTrak® 100 Modbus and SmartTrak 100 Series product instruction manual are also included on the digital communication information CD included in your shipment. The information is also available for [download](#).

Connecting to a Modbus Network

You will need the following to connect Modbus to your device:

1. A SmartTrak 100 Series equipped with Modbus.
2. A personal computer (PC) equipped with a 2-wire RS-485 interface card. Sierra offers our 100-CRC USB/RS-485 adapter and cable combination. See [Power Supply and Cabling Options](#) document.
3. Setup your 2-wire RS-485 network. It must conform to the EIA RS-485 standards. See standards in the SmartTrak 100 Modbus Manual, Chapter 3. Sierra offers our 100-DCC to connect multiple units.
4. A HyperTerminal or another terminal program to access the boot loader inside the instrument in order to set the ID number, Baud rate, Parity, and Tx delay. See Chapter 7 of the SmartTrak100 Modbus Manual. Note: HyperTerminal has been removed from Windows 7. Go to <http://helpdeskgEEK.com/windows-7/windows-7-hyperterminal> for alternatives and information.
5. 100-T8D (100-T10D for 100-H) power supply for each SmartTrak. See [Power Supply and Cabling Options](#) document.

Note: You can buy cables and accessories for your SmartTrak 100 from our [online store](#), if you did not purchase them in your original order.



Figure 1: RS-485 Connections

Installation Steps

1. Connect the instrument to your RS-485 network.
2. Start the HyperTerminal (Baud 9600, bits 8, parity N, Stop 1)
3. Power-up the instrument with your power supply.
4. Press Enter on your PC within 2 seconds of powering up the instrument to start the boot loader.
5. Set up meter ID (1 to 247) and other COM settings. See SmartTrak 100 Modbus Manual, Chapter 3 for complete instructions.
6. Quit the boot loader and start your Modbus application.
7. All available registers are listed below.

COM Pin Assignments	
Pin	Function
1	RS-485 GND
2	+24V Power
3	ID0 – selection bit
4	ID1 – selection bit
5	RS-485 – B
6	ID2 – selection bit
7	Ground
8	ID3 – selection bit
9	RS-485 – A

Holding Registers

PDU Address	Register	Description	Read/Write	Data Type	No. Registers
\$00	40001	Actual flow - low word	R	32 bits real	2
\$01	40002	Actual flow - high word			
\$02	40003	Set point - low word	R/W	32 bits real	2
\$03	40004	Set point - high word			
\$04	40005	Totalizer3,4	R/W (Reset)	BCD encoded	4
\$05	40006	Totalizer1,2	R		
\$06	40007	Totalizer7,8	R		
\$07	40008	Totalizer5,6	R		
\$08	40009	Valve power	R	16 bits int.	1
\$09	40010	Analog CH0	R	16 bits int.	1
\$0A	40011	Analog CH1	R	16 bits int.	1
\$0B	40012	Digital Data - IN	R	16 bits int.	1
\$0C	40013	Digital Data - OUT	R/W	16 bits int.	1
\$0D	40014	Alarm status	R/W	16 bit int.	1
\$0E	40015	Factory f.s – low word	R	32 bits real	2
\$0F	40016	Factory f.s – high word			
\$10	40017	User f.s – low word	R/W	32 bits real	2
\$11	40018	User f.s – high word			
\$12	40019	Gas span – low word	R/W	32 bits real	2
\$13	40020	Gas span – high word			
\$14	40021	Trig1 low – low word	R/W	32 bits real	2
\$15	40022	Trig1 low – high word			
\$16	40023	Trig1 high – low word	R/W	32 bits real	2
\$17	40024	Trig1 high – high word			
\$18	40025	Trig2 low – low word	R/W	32 bits real	2
\$19	40026	Trig2 low – high word			
\$1A	40027	Trig2 high – low word	R/W	32 bits real	2
\$1B	40028	Trig2 high – high word			
\$1C	40029	Alarm control register	R/W	16 bit int.	1
\$1D	40030	Trigger source 1	R/W	16 bit int.	1
\$1E	40031	Trigger source 2	R/W	16 bit int.	1
\$1F	40032	Analog input setting	R/W	8 bits int.	1
\$20	40033	Pulse out control	R/W	16 bits int.	1
\$21	40034	Gas index	R/W	8 bits int.	1
\$22	40035	Valve position index	R/W	8 bits int.	1
\$23	40036	Flow unit index	R/W	8 bits int.	1
\$24	40037	Password	R/W	16 bits int.	1
\$25	40038	Input set point index	R/W	8 bits int.	1
\$26	40039	Analog output index	R/W	8 bits int.	1
\$27	40040	Device firm rev – low word	R	32 bits real	2
\$28	40041	Device firm rev – high word			
\$29	40042	Device type	R	16 bits ASCII	1
\$2A	40043	Serial number – char 1,2	R	16 bits ASCII	4
\$2B	40044	Serial number – char 3,4			
\$2C	40045	Serial number – char 5,6			
\$2D	40046	Serial number – char 7,8			
\$2E	40047	Tag number - char 1,2	R	16 bits ASCII	5

\$2F	40048	Tag number - char 3,4			
\$30	40049	Tag number - char 5,6			
\$31	40050	Tag number - char 7,8			
\$32	40051	Tag number - char 9,10			
\$33	40052	Gas 1 – char 1,2	R	16 bits ASCII	8
\$3A	40059	Gas 1 – char 15,16			
\$3B	40060	Gas 2 – char 1,2	R	16 bits ASCII	8
\$42	40067	Gas 2 – char 15,16			
\$43	40068	Gas 3 – char 1,2	R	16 bits ASCII	8
\$4A	40075	Gas 3 – char 15,16			
\$4B	40076	Gas 4 – char 1,2	R	16 bits ASCII	8
\$52	40083	Gas 4 – char 15,16			
\$53	40084	Gas 5 – char 1,2	R	16 bits ASCII	8
\$5A	40091	Gas 5 – char 15,16			
\$5B	40092	Gas 6 – char 1,2	R	16 bits ASCII	8
\$62	40099	Gas 6 – char 15,16			
\$63	40100	Gas 7 – char 1,2	R	16 bits ASCII	8
\$6A	40107	Gas 7 – char 15,16			
\$6B	40108	Gas 8 – char 1,2	R	16 bits ASCII	8
\$72	40115	Gas 8 – char 15,16			
\$73	40116	Gas 9 – char 1,2	R	16 bits ASCII	8
\$7A	40123	Gas 9 – char 15,16			
\$7B	40124	Gas 10 – char 1,2	R	16 bits ASCII	8
\$82	40131	Gas 10 – char 15,16			
\$83	40132	Sensor data	R	8 + 8 bit int.	1
\$84	40133	Set unit to zero	R/W (\$A5)	8 bits int.	1
\$85	40134	Reset unit to factory default	R/W (\$A5)	8 bits int.	1