
Siemens Simovert via USS Serial Master Driver

Information Sheet for Crimson v2.0

Compatible Devices

Siemens Simovert drives via USS protocol.

Verified Device

Siemens Simovert MicroMaster 420

Accessible Data

Parameters

Prefix	Description	Element Size	Minimum	Maximum
P	Parameters	16 or 32 bits	0	9999

Process Data

Prefix	Description	Element Size	Direction
STW*	Control Word	16 bits	To Simovert
HSW**	Frequency Word	16 bits	To Simovert
ZSW	Status Word	16 bits	From Simovert
HIW	Actual Value	16 bits	From Simovert

* Please refer to the appropriate Simovert manual for bit definitions.

** The HSW contains the desired frequency demand to the inverter. This demand is scaled such that a value of 4000H represents 100%. The scaling is set in a parameter on the inverter. For inverter specific information, please refer to the appropriate inverter manual.

USS PZD and PKW Length Parameters

USS PZD Length – This device setting should be set to the number of words of process data to be transferred.

USS PKW Length – Set this device setting to the number of words of data to be transferred. A setting of 3 corresponds with only 16-bit data transfer, while a setting of 4 corresponds with only 32-bit data transfer. In most cases, the variable setting is recommended, allowing access to 16-bit and 32-bit data.

Note, USS PZD Length and USS PKW Length settings in the driver must match the settings in the Simovert drive.

Sending Commands

The Control Word (STW) and the Frequency Word (HSW) are used to send commands to the inverter. The following steps should be taken to send all commands:

- 1) Set STW (Control Word) to the appropriate value for the desired inverter behavior.
- 2) Set HSW to the appropriate value.
- 3) Write a non-zero value to SEND (Send Command) in order to initiate the command.

Please note if no value is needed for the HSW field for the command being sent, the HSW must always be set to 0 before SEND is written.

Sending Commands – Examples based upon MicroMaster 420 Control Word bit definitions

Example 1: Run Inverter at 50% frequency.

- 1) Set STW to 0x047F.
- 2) Set HSW to 0x2000.
- 3) Write a non-zero value to SEND (Send Command).

Example 2: Immediately switch inverter off.

- 1) Set STW to 0x047D.
- 2) Set HSW to 0x0000.
- 3) Write a non-zero value to SEND (Send Command).

Default Communication Settings

The default configuration for the Siemens Simovert via USS driver is as follows:

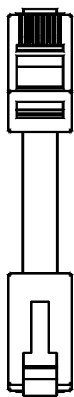
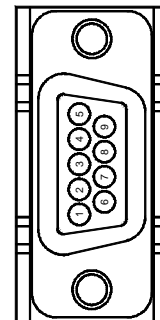
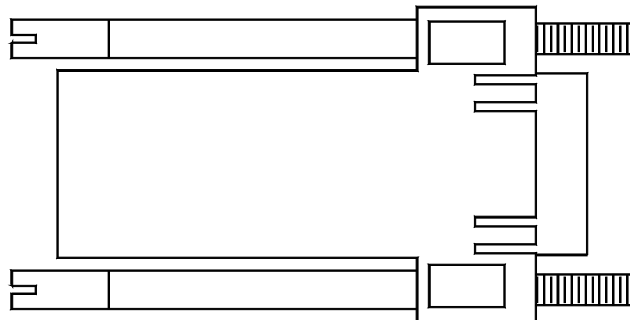
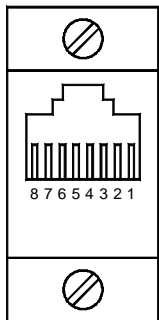
Port	RS485
Baud Rate	9600
Data Bits	8
Parity	Even
Stop Bits	1
Device Address	1

Knowledge of Unit Operation Is Assumed

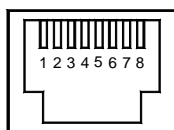
In all cases, the simple principle of 'pass-through' is maintained: there is no attempt to validate a value in terms of the end use of the unit: both familiarity with the Inverter functions and knowledge of system operation are assumed.

Communications

The connection details are described in the tables below.



Connections			
FROM RLC UNIT	Name	CONNECTER PINOUT	
		RJ45	DB9 MALE
1	TxB	1	3
2	TxA	2	8
3	RxA	3, 8	-
4	RxB	4, 7	-
5	TxEN	5	-
6	COMM	6	5
7	TxB	4, 7	-
8	TxA	3, 8	-



RS485 PORT
(FROM RLC UNIT)

The above table denotes the pin names of the RS485 port. When connecting, the pin name at the RS485 port is connected to the opposite of that pin name at the destination device.

RLC RS485 PORT	MICROMASTER 420 RS485 PORT
Pins 2	Pin 15
Pins 1	Pin 14
Pin 6 (Comm.)	

Revision History

10/29/08 – Added length parameters.