

Start-Up Kit QCI-SSB & QCI-SSBP Setup Instructions

This SilverSterling Start-Up Kit provides a simple means to evaluate and prototype with a SilverSterling S2-IG controller/driver (Not Included). The Basic Breakout Module (QCI-BO-S1) mounts directly onto the SilverSterling's Interface Port (SIP), which breakouts out the servo's power, I/O, and communications. RS-485 communications is provided by a USB to RS485 adapter.

This kit includes:

The QCI-SSB start-up kit includes:

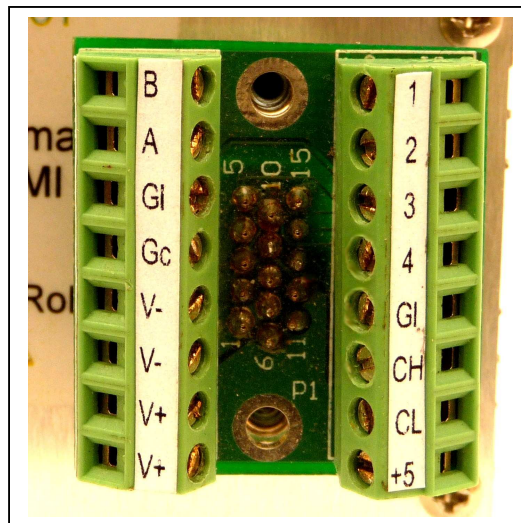
- Electronic copy of QuickControl® Software, Manual and Command Reference (QCI-EMAN)
- 4' DB15HD Motor I/F Cable (QCI-C-D15P-D15S-4)
- Breakout Module (QCI-BO-S1)
- USB to RS-485 converter (QCI-USB-RS485)

The QCI-SSBP adds

- 210w power supply (S-210-48)
- power cable (QCI-C-ACP-FLY-6)

Note: Motor and Controller are Not Included

Basic Breakout Module (QCI-BO-S1)



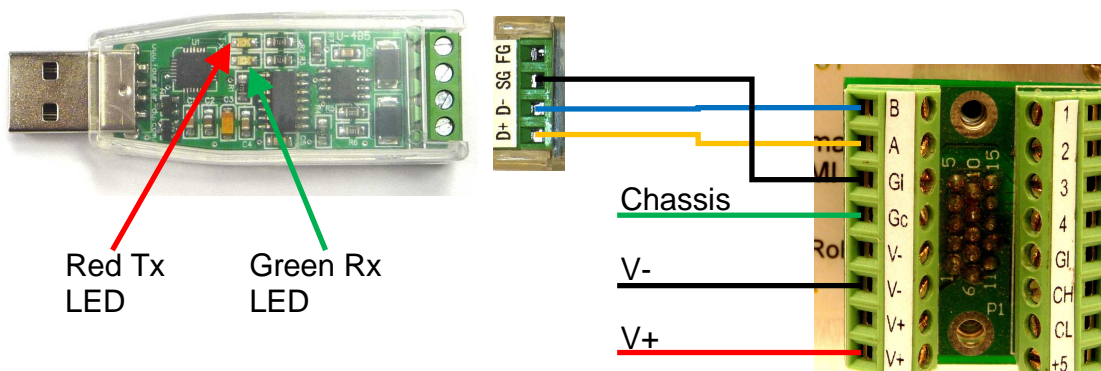
Technical document QCI-TD068 contains details on the Sterling Basic Breakout Module specifications.

Connections refer to the I-Grade SilverSterling S2 controller / driver - used with NEMA 17 or 23 frame motors.

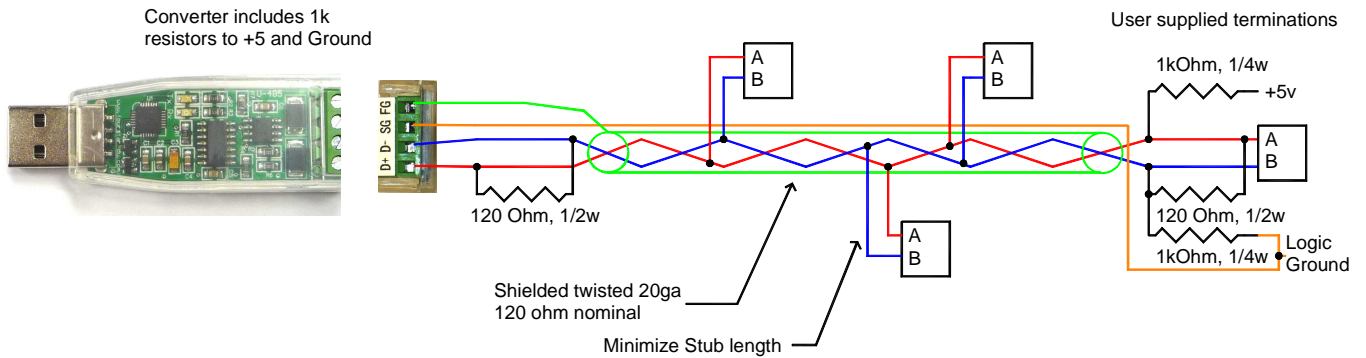
Technical Document:QCI-TD072 QuickSilver Controls, Inc.

Warning: Make sure the power supply is OFF before making any connections

1. Connecting the SilverSterling S2-IG to a 17 or 23 frame motor/encoder using the motor interface cable (QCI-C-D15P-D15S-nn).
 - a. Attach the pin side of the motor interface cable to the SilverSterling MOT DB15.
 - b. Attach the other side of the motor interface cable to the motor/encoder DB15.
2. Connecting the power supply, Breakout Module, SilverSterling and USB to RS-485 Converter to PC USB connection.
 - a. Mount the Breakout onto the SIP port on the SilverSterling.
 - b. Install the drivers for the USB to RS485 converter BEFORE connecting to PC.
 - c. The RS-485 wires should be twisted, preferably shielded and twisted. For long runs, they should be impedance controlled to approximately 120 ohms. Connect the D+ signal on the 485 converter to terminal A on the Breakout board.
 - d. Connect the D- signal to terminal B on the Breakout board.
 - e. Connect SG (signal ground) to terminal GI (logic ground) on the Breakout Board. If using shielded twisted wires, FG should be the shield, connect shield only at one end.
 - f. Short runs (3 feet / 1 m) do not require termination. Long runs should have a 120 ohm, ½ watt terminating resistor at each end of the RS-485 bus. The USB-RS-485 converter includes a 1K resistor from +5v to A and a 1K resistor from SG to B. These help keep the RS-485 levels valid when no driver is active. A similar biasing network needs to be added to the termination at the opposite end of the network. (See QCI-TD073 for more details)
 - g. Connect USB side of the USB to 485 converter to a USB port on the PC.
 - h. Wire the PS negative to V- terminal, then wire the positive terminal of the PS to the Basic Breakout V+ terminal. The positive power connection should be fused with a 7A fuse if the power supply output can exceed 8 Amps.
 - i. Wire earth ground to the Basic Breakout's Chassis terminal (optional)..



3. Connect power to power supply. See document S-210.pdf for power supply details.
4. Install QuickControl® and initialize servo (see Getting Started in the User Manual).



The above figure shows a bus with the converter and four RS485 transceivers. The stubs from the bus should be kept reasonably short (~ 1 meter or less) to minimize reflections on the bus. The bus needs to be terminated at both ends. The converter includes the 1k resistors to +5 and SG internally. The far end of the bus needs the termination resistor as well as the 1k resistors to +5 and logic Ground.