Peer-to-Peer Communications Option
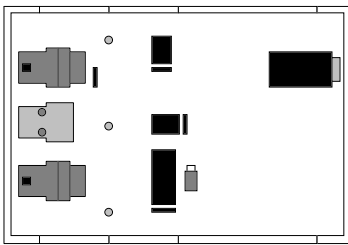## 655-RS232

Description

Figure 1

The 5703/2 Peer-to-Peer Communications option provides the capability for fully digital reference control between motor controllers through the use of a fiber optic communications medium. A reference signal is passed between drives through a fiber optic link and the P3 serial port of each drive. The option mounts directly to the type TS 32 or TS 35 DIN rail. It is powered from the motor controller 24 VDC power supply through the P3 port connection. The 5703/2 Peer-to-Peer Communications option provides the following advantages:

- 16-bit reference signal
- Configuration for master/slave operation
- Fully configurable input and output signals.
- An additional fiber optic transmitter for re-transmitting the incoming signal or transmitting the output signal to a second destination.

This option can be used with:

- *SSD 590 series controllers*
- *590 DRV Digital DC Drives*

Contents

Quantity	Part Number	Description
1	5703/2	Low profile peer-to-peer communications unit
1	CM057375U040	Modular 4-wire cable assembly
1	CM351954U020	Fiber optic cable assembly with red T&B plug - 2 meter
1	LA385204	Fiber optic cable cutting kit

Specifications

Depth	1.8 inches (46 mm)
Height	3.0 inches (77 mm)
Width	4.4 inches (112.5 mm)
Power consumption	40 mA (supplied by the controller)
Serial Transmission Range	23.6 inches (60 cm) to the 590 controller
Fiber Optic Transmission Range	0 - 131 feet (40 meters)

Recommended Spare Parts

Quantity	Part Number	Description
2	CI055069	Fiber optic plug - Red
100 Feet	CM056316	Fiber optic cable
1	LA385204	Fiber optic cable cutting kit
1	5703/2	Low profile peer-to-peer communications unit

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Installation Information

⚠	**Electrical Shock Hazard**	Isolate all sources of power before installing this option. Severe injury or death could result from unintended actuation of controlled equipment.

Figure 2 - 590 DRV Mounting

Mounting Instructions:

1. Attach the unit to type TS 32 or TS 35 DIN rail. It must not be placed further than 400 mm from the RS-232 serial port on the main control board.

⚠	**Static Sensitive Parts** The 5703/2 contains ESD (electrostatic discharge) sensitive parts. Observe static control precautions when handling, installing, and servicing this assembly.

2. Connect the 4-wire cable (CM057375U040) to the RS-232 serial port on the main control board. Be sure to route the cable to permit the control door to be opened (see figure 1).

    Note: Do not mount the 5703/2 where the cable will be subject to strong electrical or magnetic fields.

3. Prepare the receiver end of the fiber optic cable with the Fiber Optic Cable Cutting Kit (LA385204). Loosen the screws on the hardened receiver and push the cable until it stops. While keeping pressure on the cable, tighten the two screws evenly to assure metal to metal contact of the connector housing.

4. Use Thomas and Betts plugs for the transmitter fiber optic connections (red connectors) for the destination motor controllers. Be careful not to bend the fiber optic cable tighter than a 2-inch bend radius when routing the cable.

    Note: Do not tie the fiber optic cables to the control harness. This will kink the cable and attenuate the transmission.

Additional Instructions:

The 5703/2 requires motor controller software configuration for proper operation. The default settings in the SSD 590 series controller for the 5703/2 are:

```
SYSTEM PORT (P3)
    5703 SUPPORT
        SETPT. RATIO          0.0000
        SETPT. SIGN           POSITIVE
        5703 INPUT            0.00%
        5703 OUTPUT           0.00%
        5703 MODE             DISABLED
    P3 BAUD RATE      9600
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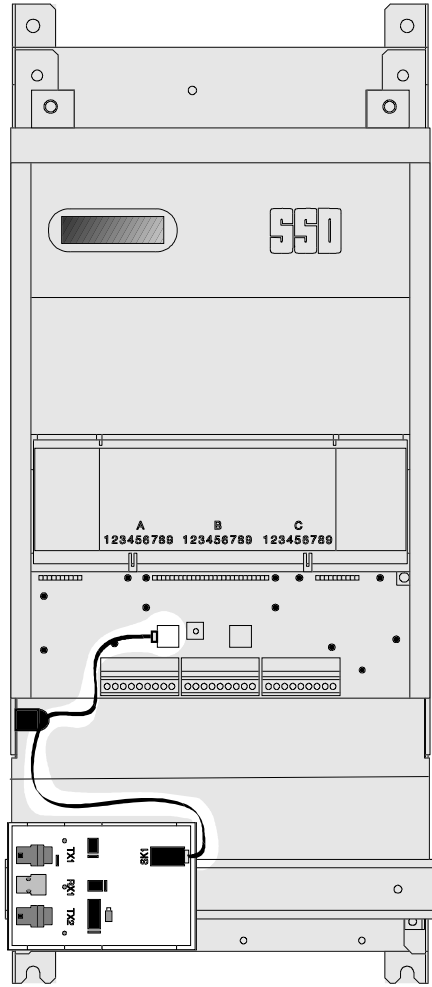
To use the 5703, set the 5703 MODE to 'MASTER' or 'SLAVE.' If a motor controller is to be a 'SLAVE' then the 'SETPT. RATIO' must be set to a value, typically 1.0000.

Note: Remember to save the parameters in the controller and update the configuration record once you have completed your configuration. See the motor controller product manual for more information.

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Application Notes

The figure below shows the 5703/2 Peer-to-Peer Communications option. The link position determines the signal transmitted by TX2. When the link connects pins 1 and 2, TX2 re-transmits the input signal from receiver, RX1. When the link connects pins 2 and 3, TX2 transmits the same signal as TX1. All the remaining configurations are set by software in the motor controller.
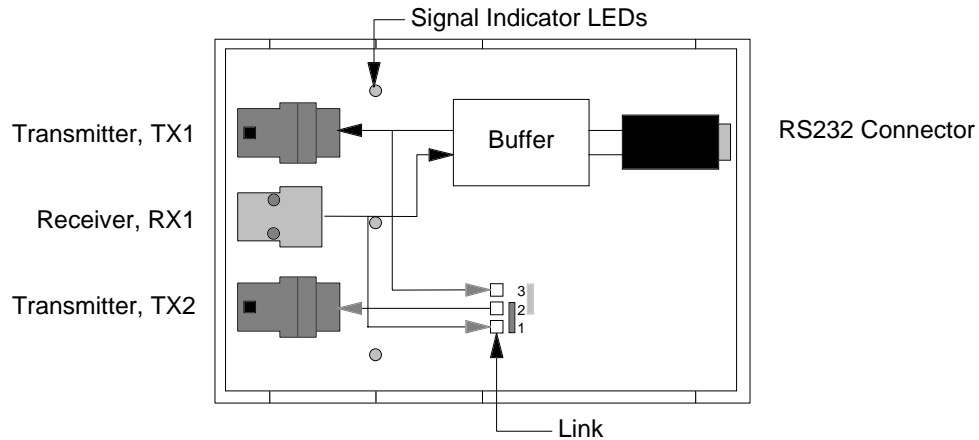

Figure 3

Figure 4 shows a typical 5703/2 application. The master drive sends a speed setpoint to slave drives 1 and 3. The link is set to 2 and 3 as shown. Slave drive 3 sends a new setpoint to slave drive 4. It also re-transmits its input setpoint from the master drive to slave drive 5. The link is set to 1 and 2 as shown.
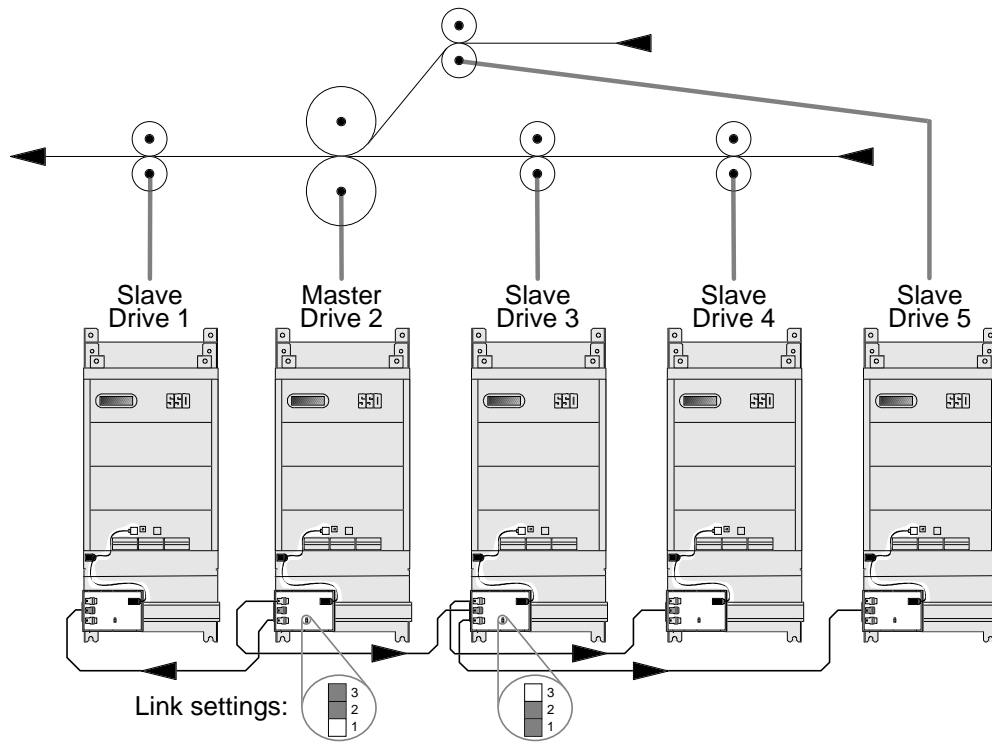

Figure 4 - 590 DRV Application

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