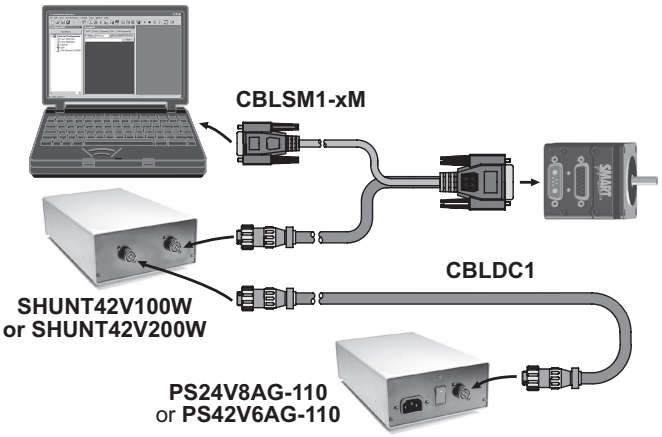
Power:

Each SmartMotor™ is operated from 24 to 48VDC. Some of the larger SmartMotor servos can draw high current.

It is highly recommended to use heavy gage wire to connect the larger motors. As a result, the "Add-A-Motor" is recommended for the 17 and 23 frame series only.



Communications:

Each SmartMotor has a primary RS-232 serial port and a secondary RS-485 port by re-assignment of ports E and F of the 7 I/O points. Up to 100 SmartMotor servos may be separately addressed and are identifiable on either RS-232 or RS-485.

The most common and cost effective solution is typically RS-232 serial communications. Under this structure, each motor is placed in an electrical serial connection such that the transmit line of one motor is connected to the receive line of the next. Each motor will be set to "echo" the incoming data to the next motor down with approximately 1 millisecond propagation delay. There is no signal integrity loss from one motor to the next, which results in highly reliable communications.

The following cables/devices are used for RS-232 and Power connectivity:

CBLPWRCOM2-xM	Power and communications cable with flying leads or in conjunction with DIN-RS232 8 channel isolated communications board
CBLSM1-xM	Power and communications cable with DB-9 serial connector and power supply connector that fits our enclosed power supplies
CBLSM1-DEMO	Testing cable used with our PWR116 "laptop" type power supply
CBLSM1-x-y-z	Custom length multi-drop RS-232 daisy chain cable

The following cables are used for RS-485 and Power connectivity:

RS485-ISO	Converts primary RS-232 to isolated RS-485 (Note: uses Port G I/O pin)
CBLSM2-x-y-z	Custom multi drop isolated RS-485 (multiple RS485-ISO adapters)

Interfacing with I/O devices:

Each SmartMotor has 7 TTL level user-configurable I/O. Each can be used as either inputs or outputs. The following is a quick review of I/O interfacing connectivity options:

CBLIO5V-xM	Direct connection to 5V TTL I/O
CBLIO5V-xM via OPTO2	24VDC isolation and conversion of 5V signals
CBLIO5V-xM via DINIO7	Motor breakout board to industry standard OPTO relays
CBLIO-ISO1-xM	Isolated 24VDC logic conversion cable

The following pages are a roadmap to motor connectivity. These pages show the physical layout of how cables are used including power, communications and I/O interconnection.