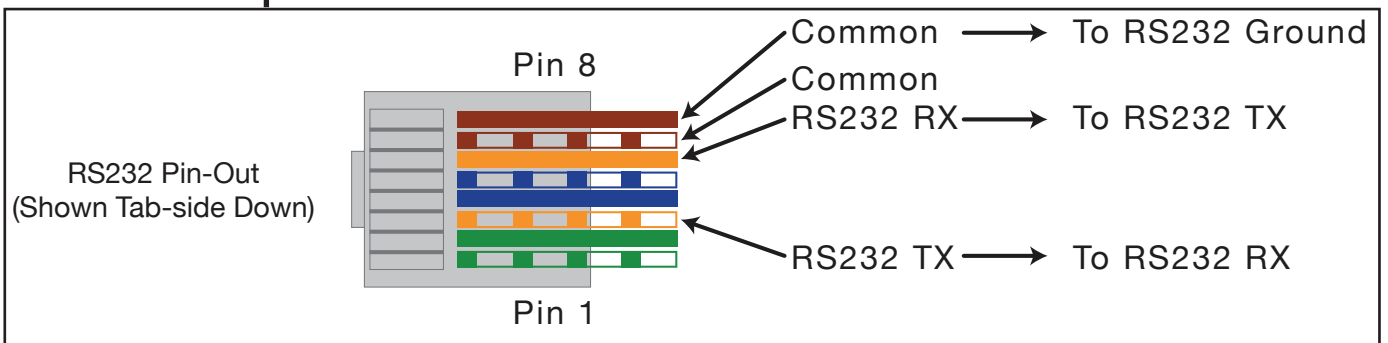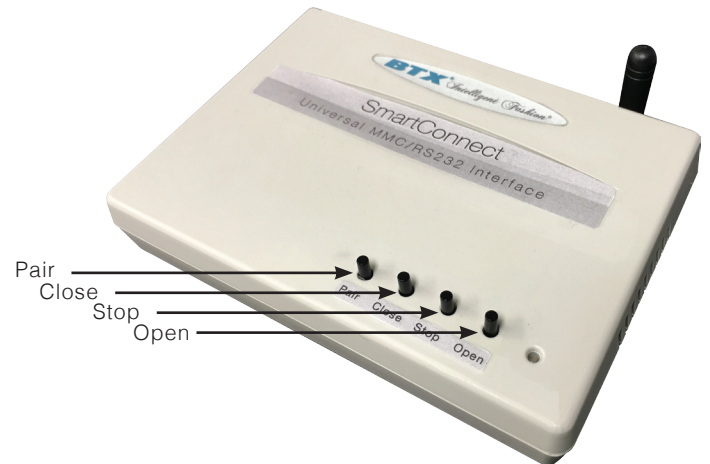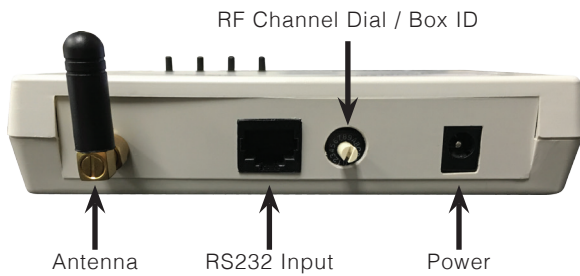## Universal MMC/RS232 Interface

The BTX SmartConnect can be used to communicate between third-party automation systems and BTX's MMC RF motors and controls. The SmartConnect can control units individually or as groups, and is operated via RS232 input. Once the input is executed, a wireless MMC RF radio command is sent to the automated BTX window coverings system.

Layout & Connections

RF Channel Dial / Box ID

Antenna   RS232 Input   Power

Pair
Close
Stop
Open

RS232 Pin-Out
(Shown Tab-side Down)

Pin 8

Common ——→ To RS232 Ground
Common
RS232 RX ——→ To RS232 TX

RS232 TX ——→ To RS232 RX

Pin 1

BTX Intelligent Fashion®

Operation

A. Initial Setup

1. Connect a 12V DC transformer (included) to the receptacle on the back of the control box. The LED will light up green to indicate power.
2. Be careful not to mount or enclose SmartConnect on or in metal, as this may effect radio reception.
3. Connect the SmartConnect to your computer and connect to the device from your preferred Terminal Application (i.e. SuperTerm (Windows), Terminte (Windows), CoolTerm (Mac), etc.). For multiple boxes, use a RJ12 6P/4C Hub.
4. Set the RF Channel Dial to the desired Box ID. Letters A through E stand for channels 10 through 14. Disregard channels 0 and F. Utilize the in-terminal commands to pair motors to the SmartConnect (more instructions on this in Step B). We recommend only using the buttons on the SmartConnect box for troubleshooting. **Please note that current protocol only supports up to 14 channels.**
5. Set the motor or MMC Receiver in its Pairing Mode. Based on the type of product you have, you will need to utilize one of the following methods to enter Pairing Mode:
   - Press Programming Button on the motor head
   - Hold the STOP button for 5 seconds from any already paired remote
   - Hold the PAIR button for 5 seconds from any paired SmartConnect
   - Enter Pairing Mode via Terminal Program from any paired SmartConnect (i.e. 0101x;)
   - For motors without Programming Buttons on the motor head, unplug power for 3 seconds, the plug power back in to enter Pairing mode
   Refer to the installation and programming instructions for the relevant product for this procedure.
6. Pair the motor or MMC Receiver to your desired channel via the Terminal (i.e. to pair to Box 1, Channel 1, use 0101p;) Repeat the steps above for each channel or product to be memorized, up to 14 separate channels.
7. To test the control operation, simply use the various run commands from the Terminal (i.e. 0101u; 0105d;, etc.) or press the UP, STOP, or DOWN buttons on the front of the SmartConnect. The window treatment should move appropriately. The LED will flash red to indicate the radio signal has been transmitted.

B. RS232 Operation

1. The BTX SmartConnect interface uses the following communications settings: **9600 Baud, 8 Data Bits, 1 Stop Bit, No Parity**
2. Set the RF Channel Dial to desired position for your Box ID (i.e. if you want the box to be BTX #1, set the dial to 1).
3. The basic format for communication is as follows:
   [SmartConnect Address] [Motor Channel] [Command] [Transmission Time];
   If the RF Channel Dial is at 1, then the SmartConnect Address is 01.
   The Motor Channel is always a two-digit number; 01 through 14.
   Transmission Time is not a required entry.
   See the following chart for command detail.

#	Commands (NOT case sensitive)	Command Description	Associated Remote Control Button Command
1	c/C	Travel to **CENTER** Favorite Position	Center
2	d/D	Travel **DOWN** or **CLOSE**	DOWN or Close
3	s/S	**STOP** System	Stop
4	u/U	Travel **Up** or **OPEN**	UP or Open
5	a/A	Travel to **A** Favorite Position	A
6	b/B	Travel to **B** Favorite Position	B
7	e/E	**Erase All** (Set motor to Factory Default)*	Close+Stop (3-5ceconds)
8	f/F	Unlearn (**ERASE**) Only the Selected Channel*	Open+Stop (3-5ceconds)
9	t/T	**CHANGE DIRECTION** (mech limit motor)* or **ENTER PROGRAMMING MODE** (electronic limit motor)	A+B (3-5ceconds)
10	p/P	**PAIR** (Learn) Motor to Selected Channel** or **CHANGE DIRECTION** (electronic limit motor)*	Open+Close (3-5ceconds)
11	n/N	Set **UPPER LIMIT*** Touch Control **ON*****	A+Center (3-5ceconds)
12	m/M	Set **LOWER LIMIT*** Touch Control **OFF*****	B+Center (3-5ceconds)
13	x/X	Enter to **PAIRING MODE**	Stop (3-5ceconds)

NOTE: PAIRING MODE and PROGRAMMING MODE are two different configuration modes. Also, Enter to Pairing Mode ("x") and Pair Motor ("p") are two distinct commands. "X" enters into Pairing Configuration Mode and "P" learns the motor to the selected channel on the transmitter in question.
*Motor must be in Programming Mode
**Motor must be in Pairing Mode
***Only applies to Tumo Drapery motors. Motor must be in Programming Mode.

Operation - Continued

Command Entry Formatting
  [SmartConnect Address] [Motor Channel] [Command] [Transmission Time];

  Example: 0105U;
  01 = SmartConnect Address (Box ID)
  05 = Motor Channel
  U = Execute "UP" command
  ; = Semicolon marks the end of a command
  Note: Transmission Time is not used in this example, and is not required by default.

  Several additional examples are below:
  All motors UP (Channel 01 through 14):   0100U;
  Motor at Box 1 Channel 1 UP: 0101U;
  Motor at Box 3 Channel 5 DOWN: 0305D;
  Motors at Box 2 Channel 10 and 14 STOP: 0210S;0214S;
  Motors at Box 1 Channel 8 Travel to Position A &   0108A;0109B;
  Channel 9 Travel to Position B:
  Enter Box 7 Channel 1 into Pairing Mode, Pair to   0701x;0705p;0705u;
  Channel 5, Run Channel 5 Up:

  Additional Notes:
  - Uppercase and Lowercase letters can be used interchangeably
  - If using the Transmission Time feature, any two digits in the command string after the command code represents length of transmission. For example, if you use 0107U22;, this means that the UP command for Channel 7 will be transmitted for 22 seconds
  - If using Transmission Time feature, be aware that long STOP commands have the potential to put the selected motors into Pairing Mode
  - Up to 7 successive commands can be entered in a single line of the control terminal at a time
  - Channel 00 means all 14 channels should run
  - Do not combine commands from two different box ID's in a single string. This can create RF interference.
  - When using your preferred Terminal Program, be sure that the data entry method is set for Line Mode, instead of Raw mode.
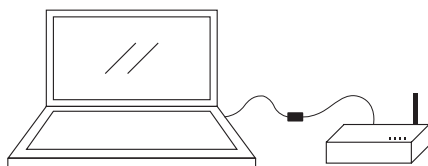
Electrical Specifications

Power
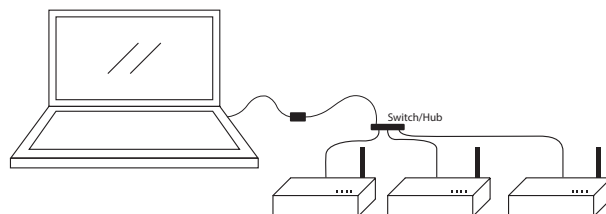 9 - 15V DC, 200mA
  20mA draw for each SmartConnect

Frequency
  433.92 MHz

Basic Wiring

Single Unit   **Multiple Units**

Switch/Hub

FCC Caution

§ 15.19 Labelling requirements.
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

§ 15.21 Information to user.
Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

§ 15.105 Information to the user.
Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
    -Reorient or relocate the receiving antenna.
    -Increase the separation between the equipment and receiver.
    -Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
    -Consult the dealer or an experienced radio/TV technician for help.

*RF warning for Mobile device:
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.