BTX SUPPLY®

Eco-line™ Automated Drapery System
Installation and Operating Instructions for Tumo® Xcel™


Programming the handsender for one motor.

Note: To put motor into program mode, unplug the motor for 30 seconds and then reconnect. The program mode is now engaged for the first three minutes the motor has been plugged in. When programming a new system, any Tumo systems within range that have been programmed within the last three minutes must be unplugged to prevent them from becoming reconfigured to match the new system. Each motor can learn up to four channels. To delete all channels from a programmed motor, make sure the motor is in program mode and press the STOP and DOWN buttons simultaneously.

The Tumo Xcel handsender can control up to 6 motors or 6 groups of motors. Before using the handsender, the motor needs to recognize the handsender. Put motor into program mode and press the channel selection button. This will light up the last channel that was selected. Press again and the next channel will be selected and light up, etc. Continue pressing the channel selection button until the channel you wish to program is selected and the corresponding channel number LED lights up, then press the stop button. Before the motor leaves program mode, press and hold the UP and DOWN buttons simultaneously. The selected channel number will light up with a slow flash. The track will then react with a movement to indicate that the motor is receiving the signal from the handsender and to confirm that communication between motor and handsender is established. Press the LEFT or RIGHT button, and the overlap arm of the drapery system should start to move. The channel has now been programmed.
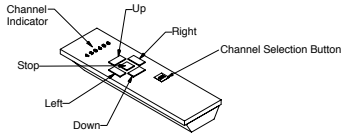
## Programming one handsender to control multiple motors or multiple groups of motors.
Note: When programming a new system, any Tumo systems within range that have been programmed within the last three minutes must be unplugged to prevent them from becoming reconfigured to match the new system.

Select channel on the handsender (for example, channel 2) by repeatedly pressing the channel selection button until the "2" is lit. To program another motor to recognize this same channel(2) repeat the same programming procedure in step 6 for the new motor. Six motors can be programmed to be controlled by the same handsender this way. Select this channel to confirm that a particular motor has been programmed to communicate with this channel by pressing LEFT or RIGHT. You should see the system react. Continue this procedure until all six channel number LEDs light up. All the motors will now respond when you press the LEFT or RIGHT button. Any one of the six channels can be programmed this way for a group of motors. In this case, each channel will control all the motors in that group at the same time.

## Programming wireless RF Tumo switch to a motor
Note: To program to a wireless RF switch, first you must put the motor into program mode as described on page 21.

Once the motor is in program mode, push the open and close buttons on the wireless switch at the same time. The track will react with a movement to indicate the motor is receiving the signal from the wireless switch. If this happens, your switch is now programmed.

Push at the same time to learn to the motor
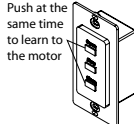
Connecting Tumo Xcel Drapery Systems to other controls
The Tumo Xcel Drapery System can be easily linked with most third-party control devices through the low-voltage connecting port at the bottom of the motor. This port can be used to connect to both local and network controls. BTX Supply can provide technical assistance upon request to meet your project needs. With the Tumo Xcel Drapery System, only a BTX low-voltage wall switch is needed to perform control operations. Simply connect the motor to a low-voltage switch by plugging one end of the provided RJ-11-4 lead into the low-voltage port on the motor. Plug the other end of the modular wire into the low-voltage port of the switch, and fix the wall switch at convenient position.
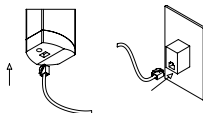
Additional Programming Instructions

Reverse Motor Direction
Once the system has been installed and the handsender has been programmed, the RIGHT and LEFT buttons should match the travel direction of the drapery when engaged to open or close. If the buttons do not match the travel direction of the system, you may choose to reverse the motor direction to match the buttons on the handsender. To change the motor direction, you will need to unplug the motor for one minute, then plug it back in. Press and hold the LEFT and RIGHT buttons simultaneously. The channel indication LED should flash slowly. When the change has taken place, the motor should react with a jog within 5 seconds. Give the sysetm a test run to verify the change.

Delete Channel Settings at the Motor
Using the CHANNEL SELECTION button, select the channel programmed to the motor for which you wish to cancel the channel setting. Press and hold the UP and STOP buttons until the motor reacts with a jog. This channel setting has now been deleted from the motor. If you now press or hold any of the directional buttons, the motor should not move.

Replacing the Handsender Battery
The handsender is powered by two lithium-ion button batteries, model number: CR24300. This battery style is fairly common and should be easy to find at most retail stores that sell electronic equipment or accessories. The battery will last for over two years under normal conditions. When the channel LED numbers one and six are lit up at the same time, this means the batteries are almost dead and need to be replaced. Open the handsender case with both hands by twisting the top edge of the handsender until the entire front cover pops off. The cover may be a little tight to remove. When inserting the new batteries, be sure to place the positive side down. After inserting the new batteries, replace the cover, and the handsender will be ready for use.

Operating the Tumo Xcel Eco-line Drapery System
Upon completion of the hardware installation, programming of the handsender and installation of the drapery fabric, the system is ready for long term, reliable operation. The handsender open and close directions are indicated by the arrows, left for open and right for close (or vice versa if desired).

It is not necessary to point the RF handsender in a specific direction. The motor receives the signal within a 30ft-50ft range. If more than one track is to be controlled by the handsender, use the channel selection button as described under section 7 on the previous page. Clear open and close signs are on the optional wall switch. At any time, the drapes can be operated manually instead of by handsender or wall switch.

Should you go multiple days without consistent sunlight and are in need of recharging the drapery motor, you can use the convenient BTX quick charger. Simply plug the quick charger into any standard wall outlet and plug in the cable to the motor where your solar panel would normally connect. Allow 24-48 hours for a full charge. The motor can be operated while the quick charger is connected.

Low-Voltage Control Port
For switch control or audio/video, lighting control and building management systems.

Front View of 4P4C RJ (RJ 11/4) Connector
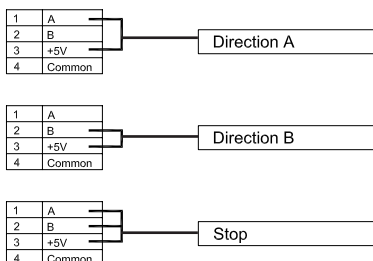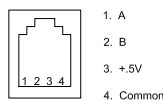
1. A
2. B
3. +.5V
4. Common

1	A
2	B
3	+5V
4	Common

Direction A

1	A
2	B
3	+5V
4	Common

Direction B

1	A
2	B
3	+5V
4	Common

Stop
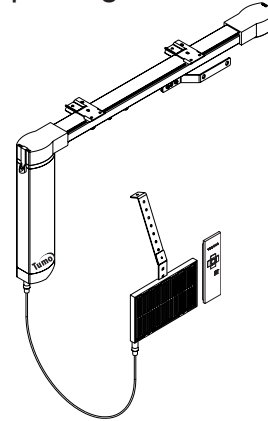
The Tumo Xcel Eco-line drapery system consists of:
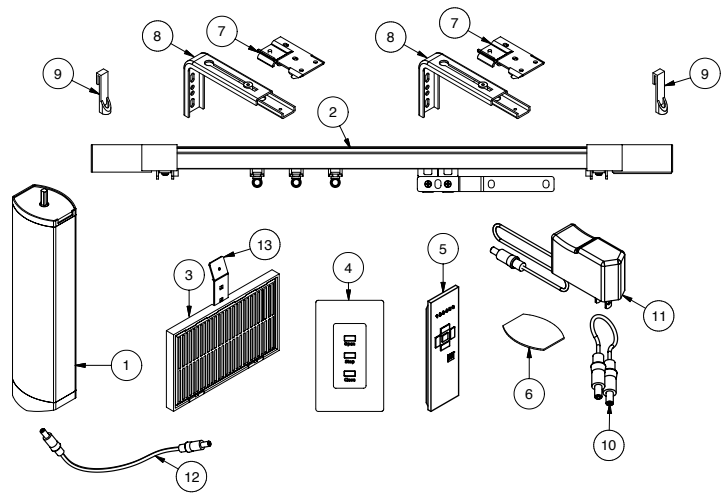
	Component	Quantity Included
1	Intelligent Motor	1
2	Silent Drapery Track	1
3	Solar Panel	1
4	Wall Switch	optional
5	Multi-Channel Handsender	1
6	Gear end Cover Plate	2
7	Track Mounting Bracket*	n
8	Wall Bracket*	n
9	Fabric Wrap Clip	2
10	Solar-Link Jumper Cable	optional
11	Solar Quick Charger	optional
12	Solar-Link Connection Cable	1
13	Solar Panel Mounting Bracket	1

Note: Required number of track mounting brackets

n=track length (inches)/20

Number of Brackets = Track width divided by 20
*Brackets spacing is max 20 in.

1) Motor (102.9000)
2) Headrail Assembly
   (consists of: headrail (310.6070), drive belt (290.3005), drive gear (266.5105), drive runner master assembly (266.4955), carriers (240.7505), cagers (240.7530))
3) Solar Panel (400.2310 or 401.1000)
4) Wall Switch (480.30xx : contact factory for type and color)
5) 6-Channel Handsender (490.2075)
6) Gear End Cover Plate (266.5110)
7) Locking Mounting Bracket (ceiling) (236.1610)
8) Wall Mount Bracket (236.1865)
9) Fabric Wrap Clip (246.0650)
10) Solar-Link Jumper Cable (440.1210)
11) Solar Quick Charger (400.2300)
12) Solar-Link Connection Cable (40.1200)
13) Solar Panel Mounting Bracket (236.1355 or 236.1360)

The Tumo Xcel Drapery Automation system has been designed for ease of installation. The mounting brackets will accommodate either wall or ceiling mount applications. Because building materials used in construction vary widely, BTX does not supply the fasteners. For safe installation we recommend to install a bracket no more than 20" from the next. Use more brackets with heavier fabrics. Installation steps are outlined below:

How to Install the Headrail Ceiling Mount

1. Put the Track Mounting Brackets onto the Track

The brackets for the end of the track should be mounted as close to the end as possible, normally 1cm\(3/8in) from the drive gear. Other brackets should be 20in(50cm) apart. See diagram below:

Loosen the screw on the bracket and move the locking arm to the open position. Position the brackets on the track as illustrated below (see diagram below left). Lock the bracket to the track by moving back the locking arm to locking position (see diagram below right) and tighten screw.

NOTE: If your track is spliced, make sure that you place a bracket on the left AND right side of the splice.

2. Install the Fabric Wrap Clip

Put the fabric wrap clip into the slot at the very end of the drive gear. See diagram below:The Tumo Xcel Eco-line drapery system consists of:

Note: Installers must provide the conditions at the particular job site. Install brackets onto firm and solid surfaces only. DO NOT install onto dry wall.

3. Install the Track onto the Ceiling

After attaching the mounting brackets to the track, hold up the track to the position where the track should be located. Screw each bracket into solid blocking, using the available holes.

Warning: Do not apply load to sheetrock or soft materials!

How to Install the Headrail Wall Mount

1. Mount Bracket to the Wall

Install the wall brackets to solid blocking no more than 20" apart, or closer as needed.

Warning: Do not apply load to sheetrock or soft materials!

2. Mount the Track to the Wall Brackets

The brackets for the end of the track should be mounted as close to the end as possible, normally 3/8 in. from the drive gear. Other brackets should be no more than 20" apart. See diagram below:

Loosen the screw on the bracket and move the locking arm to the open position. Position the track onto the brackets as illustrated below (see diagram below left), lock the track to the brackets by moving back the locking arm to locking position (see diagram below right) and tighten screw.

Note: If your track is spliced, make sure to place a bracket on the left AND right side of the splice.

2. Install the Fabric Wrap Clip

Insert the fabric wrap clip into the slot at the very end of the drive gear. (see diagram below):

How to Install the Motor

With the motor drive shaft upward, guide the shaft into the center hole of the drive gear, then push the motor up until it fits securely in the drive gear (see diagram below left). When the motor and drive gear are fully engaged, push the locking arm to the side until you hear a "click" sound (see diagram below right). The motor is now locked into place.

Motor Drive Shaft

Push the locking arm to the side to lock motor into place

Example of solar panel installation. Actual mounting conditions may vary.

How to Install the Solar Panel

Mount the Solar Panel to desired location in close proximity to the motor.

NOTE: By definition, to replenish operating energy, all solar panels must be exposed to direct sunlight.

1. Select the panel location such that the solar side will be exposed to direct sunlight (usually a Southeast-South-Southwest direction). In case of limited sun exposure, a second (auxiliary) panel may be needed. If so, install the panel immediately mounting it adjacent to the first panel.

2. Install the metal bracket into a solid surface using an appropriate steel or metal screw as shown in figure 1.

3. Slide the solar panel onto the metal bracket end by slipping the bracket arm into the slot at the panel backside. Ensure the metal bracket is solidly in place as shown in figure 2.

4. Connect the panel with the motor by using a Solar Link cable as shown in figure 3 (cable is supplied with purchase of the motor).

5. If an auxiliary panel is required, connect the auxiliary panel to the main panel using the jumper Solar Link cable.

Window
Solar Panel
Mounting Bracket
Motor
Solar-Link Cable

Warranty/Terms and Conditions