

BTX[®]

Operation Instructions for MMC Control System

MMC Control

Instructions to the User for FCC

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.

Operation with non-approved equipment or unshielded cables is likely to result in interference to radio and TV reception. The user is cautioned that changes and modifications made to the equipment without the approval of the manufacturer could void the user's authority to operate the equipment.

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.

Information for Canadian Users (IC Notice)

Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Dip Switch Table for MMC RF Board

	1	1	1	Maintained
on	1	2	3	Open is Open and Close is Close

		1	1	Momentary to
	1			Maintained
on	1	2	3	Open is Open and Close is Close

	1		1	Momentary
		1		
on	1	2	3	Open is Open and Close is Close

	1	1		Maintained
			1	
on	1	2	3	Open is Close and Close is Open

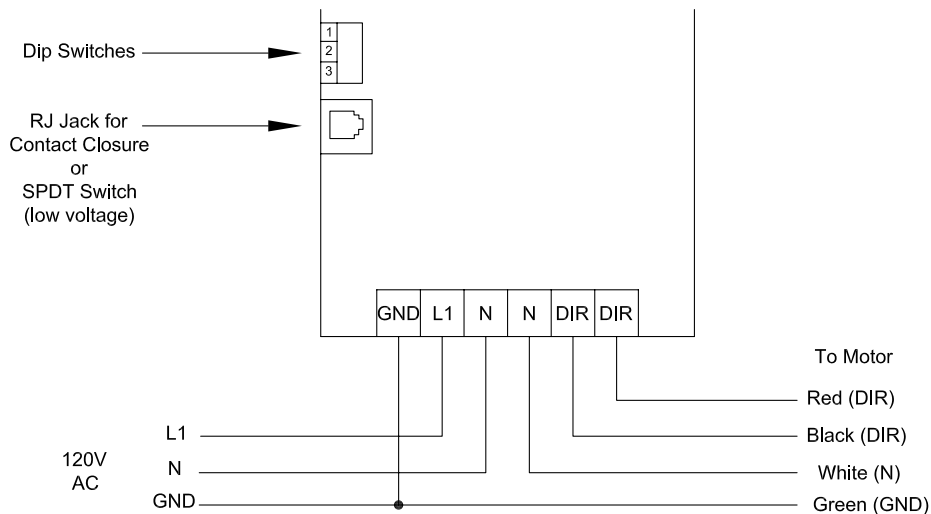
		1		Momentary to
	1		1	Maintained
on	1	2	3	Open is Close and Close is Open

	1			Momentary
		1	1	
on	1	2	3	Open is Close and Close is Open

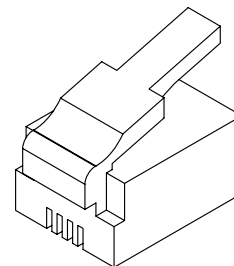
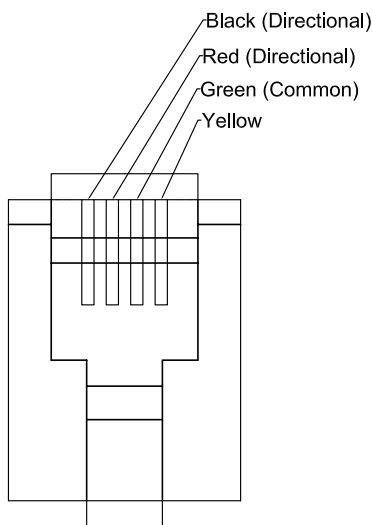
If switch 3 is off, the action is 'open is open and close is close'.

If switch 3 is on, the action is 'open is close and close is open'.

Basic Wiring of MMC-RF Board



Switch Pin Out for MMC

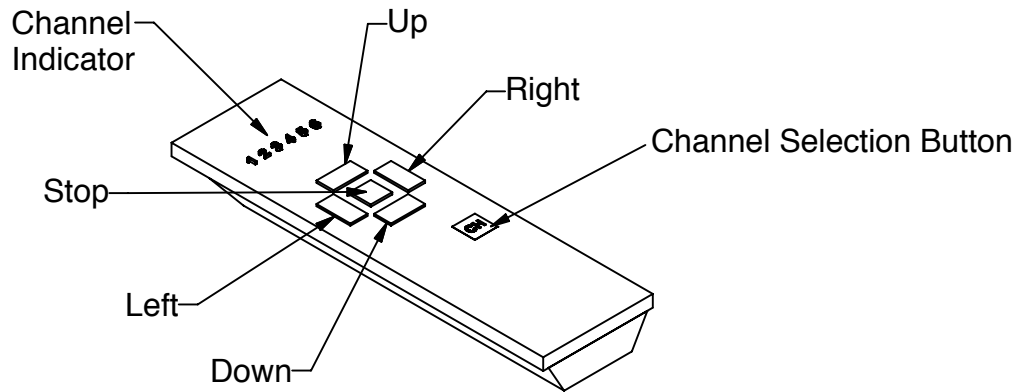


RJ11 Connector
4/4

Functional Explanation for Dip Switch

off	Maintained	Maintained	Open is Open
	Momentary to Maintained	Momentary	Open is Closed
on	1	2	3

MMC Programming



1) Programming the Handsender for One Motor

Note: To put MMC into program mode, unplug the MMC for 30 seconds and then reconnect. The program mode is now engaged for the first three minutes the MMC 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 MMC can learn up to four channels. To delete all channels from a programmed motor, make sure the MMC is in program mode and press the STOP and DOWN buttons simultaneously .

The MMC handsender can control up to 6 MMC's or 6 groups of MMC's. Before using the handsender, the MMC needs to recognize the handsender. Put MMC 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 MMC leaves program mode, press and hold the UP and DOWN buttons simultaneously. The selected channel number will light up with a slow flash. The MMC will then react with a movement to indicate that the receiver is receiving the signal from the handsender and to confirm that communication between MMC and handsender is established. Press the LEFT or RIGHT button to test. The channel has now been programmed.

2) Programming one Handsender to Control Multiple Receivers or Multiple Groups of Receivers.

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 MMC to recognize this same channel(2) repeat the same programming procedure in step 1 for the new MMC. Six MMC's can be programmed to be controlled by the same handsender this way. Select this channel to confirm that a particular receiver 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 MMC's 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 receivers. In this case, each channel will control all the receivers in that group at the same time.

MMC Programming

3) Delete Channel Settings at the MMC

Using the CHANNEL SELECTION button, select the channel programmed to the MMC for which you wish to cancel the channel setting. Press and hold the UP and STOP buttons until the receiver reacts with 4 clicks. This channel setting has now been deleted from the MMC. If you now press or hold any of the directional buttons for that channel, the MMC should not click.

4) Replacing the Handsender Battery

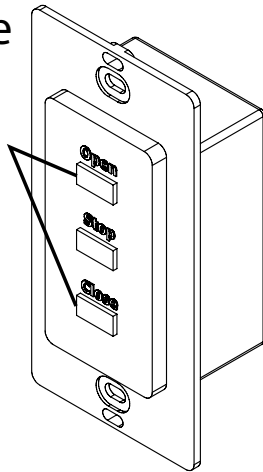
The handsender is powered by two lithium-ion button batteries, model number: CR24300. This battery style is fairly common and should be easy to find at most retail stores that sell electronic equipment or accessories. The battery will last for over two years under normal conditions. When the channel 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.

Programming wireless RF Tumo switch to a MMC

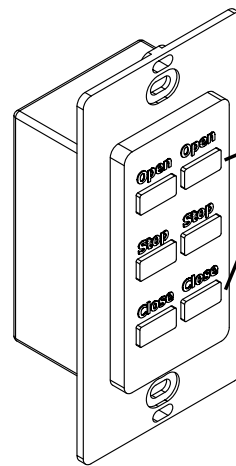
Note: To program to a wireless RF switch, first you must put the MMC into program mode as described on page 21.

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

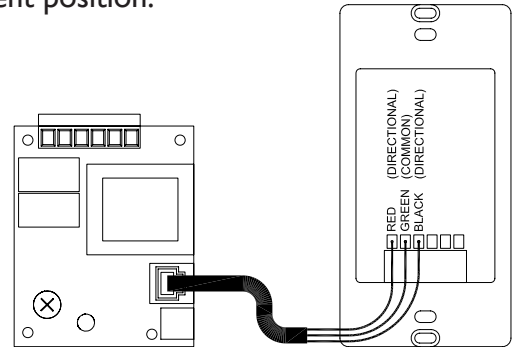


Push at the same time to learn to the motor



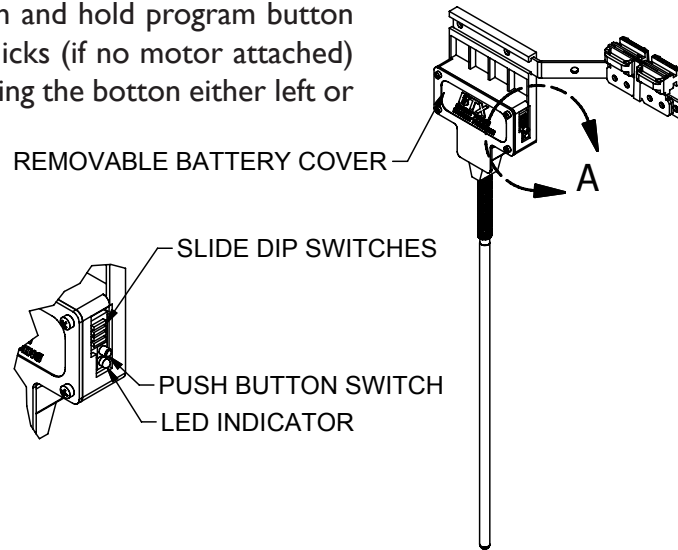
Connecting Tumo Xcel Drapery Systems to other controls

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.



Programming Smart Touch to a MMC

To program the Smart Touch to the MMC, push and hold program button for a few seconds until the relay in the MMC clicks (if no motor attached) or the system jogs. Test the Smart Touch by moving the button either left or right to activate the MMC.



Dip Switch Table for Smart Touch

OFF/OPEN

Pull the Left shade Opens
(Button on the right master)

Pull the Right shade Closes
(Button on the right master)

ON/CLOSE



Pull the Right shade Opens
(Button on the right master)

Pull the Left shade Closes
(Button on the right master)

NOTE: This is for a split draw system.

Warranty & Return Policy

1. Contract

All offers, quotes and sales by BTX Window Automation, Inc. (BTX) are subject to these Terms and Conditions of Sale. No other agreements have been made or will be valid unless expressly confirmed in writing by BTX.

2. ACCEPTANCE

BY TAKING DELIVERY OF BTX PRODUCTS, PURCHASER ASSENTS TO THE TERMS AND CONDITIONS STATED HEREIN, UNLESS OTHERWISE EXPRESSLY AGREED IN WRITING BY BTX. BTX HEREBY OBJECTS TO ANY DIFFERENT OR ADDITIONAL TERMS AND CONDITIONS WHICH MAY BE PROPOSED OR HAVE BEEN PROPOSED BY PURCHASER IN ANY PURCHASE ORDER FORMS OR OTHER DOCUMENTS. THE TERMS AND CONDITIONS STATED HEREIN SHALL PREVAIL OVER ANY DIFFERENT OR ADDITIONAL TERMS AND CONDITIONS PROPOSED BY PURCHASER AND SHALL APPLY TO THE SALE OR SHIPMENT OF ANY GOODS IN RESPONSE TO PURCHASER'S ORDER.

3. Prices and Delivery

All quoted prices are valid for a period of 60 days from the date of issue, unless otherwise agreed by BTX in writing. Prices on accepted orders remain firm for a period of four months from the date of order acceptance, provided final delivery occurs within that period. If delivery is to occur more than four months from the date of order acceptance, prices are subject to change in accordance with any changes in the published BTX price list which occur after the date of order acceptance. All prices quoted are FOB Dallas, excluding all freight, packaging and taxes. All delivery dates are approximate.

4. Payment Terms

(a) Open account payment terms may be established from time to time at the sole discretion of BTX, and are subject to credit approval in writing. Terms on open accounts are payment in full, net 30 days from date of invoice. Payment terms for single transactions and transactions other than on open account are net C.O.D. or prepay unless confirmed otherwise in writing by BTX.

(b) Amounts past due are subject to a finance charge of 1.5% per month to the legal limit, and the finance charge will apply without further prior notice. In case of purchaser's delinquency in payment or insolvency, BTX retains the right to halt or interrupt all further deliveries and service to the purchaser until all past due amounts have been paid, and to require payment in advance for orders not yet delivered, without any liability resulting for BTX. Purchaser expressly agrees to indemnify BTX and hold BTX harmless from all charges and liability which might arise in any manner from purchaser's nonpayment.

5. Inspection, Acceptance and Claims

All claims by purchaser against BTX for shortages must be made in writing to BTX within fourteen days from date of shipment from BTX's Dallas base or they are waived. Any claims for transport damage are the responsibility of the recipient and must therefore be filed with the carrier by the recipient.

6. Risk of Loss

Full risk of loss, damage or destruction of the goods shall pass to purchaser upon delivery of the goods to the carrier at the point of shipment or upon delivery at storage, whichever applies.

7. Force Majeure

If an order cannot be completed due to causes beyond BTX's control, BTX retains the right to

either cancel the uncompleted portion of the order or complete the order if and when this becomes possible. Purchaser shall not have the right to withhold payment on delivered goods and/or services, nor to unilaterally change the order or cancel same. Force majeure includes but is not limited to strikes, lock-outs, storms, floods and the like, terrorism, wars, revolutions, major equipment failures or fire damage at production facilities, etc.

8. Warranty

BTX extends a three-year limited warranty for its MotorDrape™ DC systems and controls. BTX warrants its other systems and 110/220V motors and hardware accessories against defects in material and workmanship for a period of five years from date of shipment from BTX's Dallas base; however, pull chains and cords for roller shades are excluded. BTX controls and electric and electronic components carry a one-year warranty against defects in material and workmanship from date of shipment from BTX's Dallas base. BTX does not warrant cords and tapes for lift systems, nor customer's own materials, and BTX disclaims any written, oral or implied warranties for such materials. If any item to which a warranty applies proves to be defective during the specified warranty period under normal and proper use and provided the equipment or part has been properly stored, installed and maintained with due regard to any directives, instructions and operating procedures provided, BTX shall, upon presentation of proof of purchase, repair or replace the item at the sole option of BTX, F.O.B. Dallas. Application of the warranty will be determined by BTX technical staff after return of the item, its inspection and any necessary investigation. This warranty does not apply in case of defects resulting from faulty installation, misuse, misapplication, abuse, mishandling, shipping or failure to follow instructions. This warranty does not cover any incidental, special or consequential damages, labor on location, service calls, reinstallation, or expenses involved in shipping, packing, and returning the goods. It also does not cover damages caused by fire, flood, or act of God. BTX warrants items repaired or replaced pursuant to the above warranty, under normal and proper use, storage, installation and maintenance, against defects in material and workmanship for a period of 30 days from date of start-up of such repaired or replaced item or the expiration of the original warranty, whichever is longer. Correction of nonconformities in the manner and for the period of time specified herein shall be purchaser's exclusive remedy and shall constitute fulfillment of all liabilities of BTX, whether in warranty, contract, negligence, tort, or otherwise with respect to the item delivered. In no event shall BTX be responsible for providing access to the allegedly defective item or for disassembly or reinstallation of such item or parts.

9. DISCLAIMER

THE FOREGOING EXPRESS WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WRITTEN, ORAL OR IMPLIED. ALL OTHER WARRANTIES, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY DISCLAIMED.

10. LIMITED LIABILITY

BTX'S LIABILITY FOR ANY AND ALL CLAIMS, CHARGES, EXPENSES, DAMAGES, LOSSES AND INJURIES ARISING OUT OF OR RELATING TO ITS PERFORMANCE OR BREACH OF ANY AGREEMENT OF SALE

FOR GOODS AND/OR THE MANUFACTURE, SALE, DELIVERY, RESALE, REPAIR OR USE OF ANY GOODS SHALL NOT EXCEED THE PURCHASE PRICE OF SUCH GOODS, REGARDLESS WHETHER THE CLAIM IS BASED ON CONTRACT, TORT, NEGLIGENCE, STATUTE, STRICT LIABILITY, WILLFUL OR WANTON CONDUCT, WARRANTY (EXPRESS OR IMPLIED), OR OTHERWISE. THIS SHALL BE PURCHASER'S SOLE AND EXCLUSIVE REMEDY AGAINST BTX OTHER THAN THE REMEDY PROVIDED FOR UNDER THE EXPRESS BTX WARRANTIES. IN NO EVENT SHALL BTX BE LIABLE FOR INCIDENTAL, SPECIAL, CONSEQUENTIAL OR EXEMPLARY DAMAGES.

11. ARBITRATION

BTX AND PURCHASER AGREE THAT THIS TRANSACTION INVOLVES INTERSTATE COMMERCE AND THAT AT THE OPTION OF BTX, ANY DISPUTE RELATING TO IT IN ANY MANNER SHALL BE SUBMITTED TO BINDING ARBITRATION BEFORE THE AMERICAN ARBITRATION ASSOCIATION AND SHALL BE GOVERNED BY THE FEDERAL ARBITRATION ACT OR, IF THAT STATUTE IS INAPPLICABLE, ANY DISPUTE SHALL BE GOVERNED BY THE TEXAS ARBITRATION ACT; HOWEVER, NO ARBITRATOR MAY AWARD PUNITIVE DAMAGES. PURCHASER AGREES TO PAY ALL COSTS INCURRED BY BTX, INCLUDING BUT NOT LIMITED TO COSTS OF ARBITRATION, COLLECTION, REASONABLE ATTORNEY'S FEES, EXPENSES AND ANY COURT COSTS.

12. Return

No goods may be returned without the express written approval of BTX and the receipt of an BTX RGA identification number. Goods approved for return must be returned in original packaging, freight prepaid, clearly marked with the BTX RGA identification number and be accompanied by a copy of the original invoice. Application of the warranty will be determined by BTX technical staff after return of the item, its inspection, and any necessary investigation. A restocking charge of 25% of invoice value will apply on all items accepted for return.

13. Liens and Security Interest

Purchaser will not permit to be created or to remain undischarged any lien, encumbrance or charge upon the goods supplied by BTX until BTX has received payment in full for such goods. If any liens, encumbrances or charges shall be filed against BTX goods prior to payment in full, purchaser shall discharge the liens, encumbrances or charges within ten days and reimburse BTX for expenses incurred in defending its security interest. Title to the goods shall remain with BTX until payment in full has been received.

14. Statute of Limitations

Any action against BTX shall be commenced within one year after the cause of action has arisen.

15. Choice of Law and Venue

The rights and duties of the parties hereunder and the construction and effect of these terms and conditions shall be governed by the laws of the State of Texas. Venue shall lie in Dallas, Texas, to the exclusion of any other jurisdiction.

16. This agreement supersedes any inconsistent or additional promises made by any employee, representative, agent or dealer of BTX.

17. If any part of this agreement is found invalid, the balance of the agreement remains enforceable.

