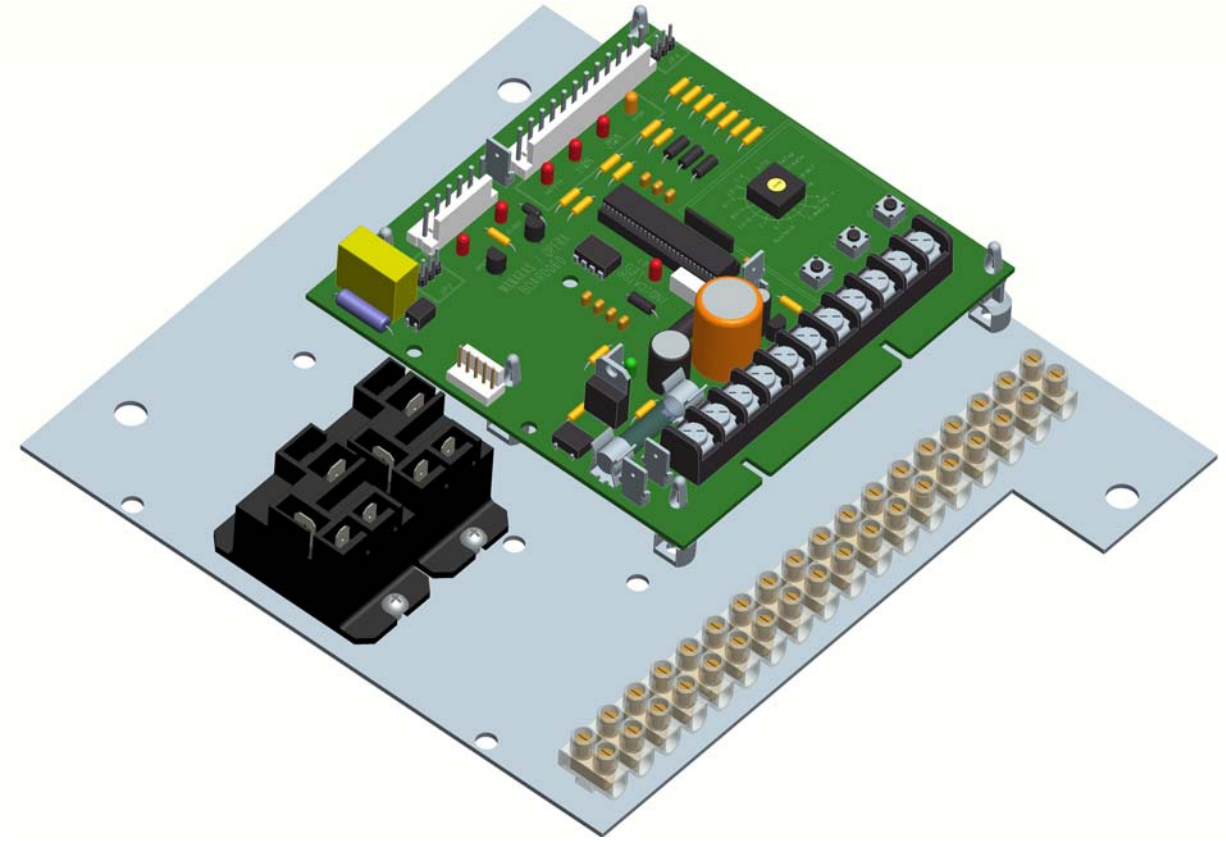
Replacement and Installation Instructions

SS-90/SS-100 Logic Controller Replacement Board



MGO/MGO-GD/MSWG & MGO-HD

Note: Read this manual carefully before replacing the existing board and place this installation manual in an accessible place near the operator. For future reference record:

Model # _____

Date _____

Wiring Diagram # _____

Door No. # _____

Manaras®

Opera™

Important changeover instructions

Please read the following instructions carefully before changing the controller over to another.

NOTICE

The following instructions apply to all gate operators built with SS-90/SS100 logic controller, model MGO/MGO-GD/MSWG & MGO-HD in1 phase or 3-ph irrespective of the line voltage.

⚠ WARNING

We have tried every effort to minimize the time required to change over these boards. Neglecting to follow these instructions will result in complete damage to the controller. If you are not confident, please consult Manaras-Opera for assistance.

NOTE

Do not disconnect any external devices like push button station, safety edge, exit loop, safety loop, etc.

We tried every aspect not to disturb these, but if you wish to use some more of the added features to the Manaras-Opera logic controller, please refer to page 4 of this manual for more wiring instructions.

Step by step changeover instructions

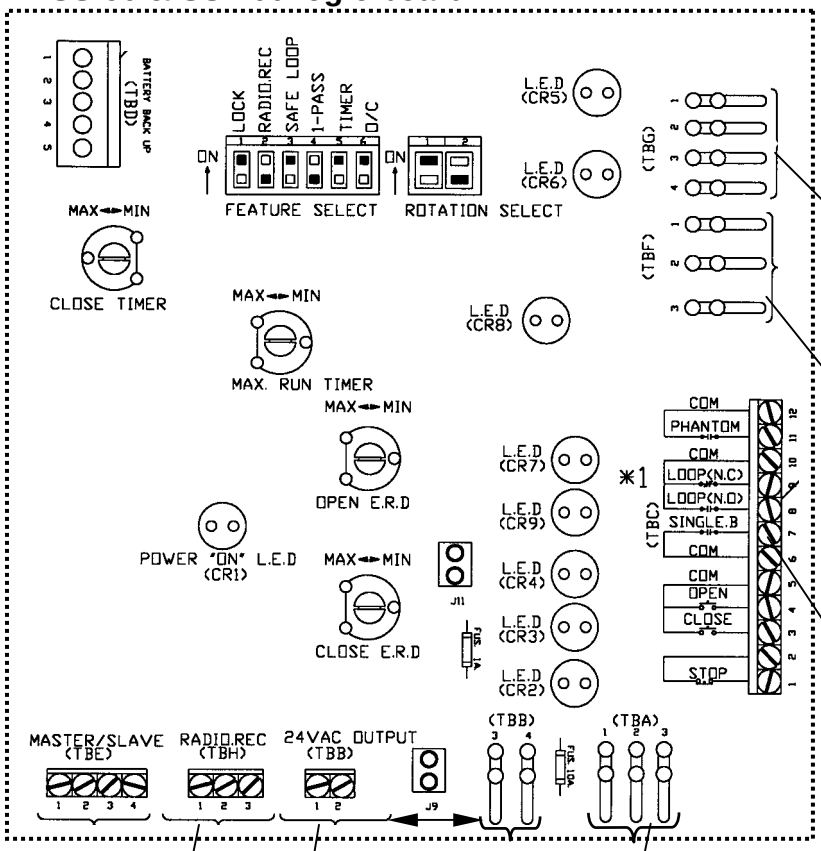
1. Disconnect all power to the gate operator.
2. Remove the bolts holding the SS-90/SS100 Logic Control Board.
3. Install the new Manaras-Opera logic controller. It shall be installed in the control box depending upon the space available.
4. Refer to page 3 and 4 for installation instructions.
5. Once installation completed, refer to page 5 and 6 to program the new logic board.

NOTE: All wires coming from Terminal Blocks: TBH, TBB, TBA, TBC, TBF and TBG should be connected to the Manaras-Opera logic controller terminals, numbered 1 to 30.

Transferring wires from SS-90/SS100 logic board to Manaras-Opera logic controller

Refer to the tables below

SS-90 & SS-100 logic board



Disconnect wires from TBG terminal block		Connect to Manaras-Opera board
Terminal No.	Wire Colour	Terminal No.
# 1	(GRAY)	# 15
# 3	(YELLOW)	# 14
# 4	(RED)	# 13

Disconnect wires from TBF terminal block		Connect to Manaras-Opera board
Terminal No.	Wire Colour	Terminal No.
# 1	(RED)	# 30
# 2	(GRAY)	# 29
# 3	(BLACK)	# 25

Disconnect wires from TBC terminal block		Connect to Manaras-Opera board
Terminal No.	Wire Colour	Terminal No.
# 1	(BLACK)	# 1
# 2	(BLACK)	# 2
# 3	(RED)	# 3
# 4	(GRAY)	# 4
# 5	(YELLOW)	# 5
# 6	(BLUE)	# 6
# 7	(ORANGE)	# 7
# 8	(BROWN)	Not required and must be removed completely
# 9	(WHITE)	
# 10	(YELLOW)	
# 11	(GREY)	
# 12	(YELLOW)	

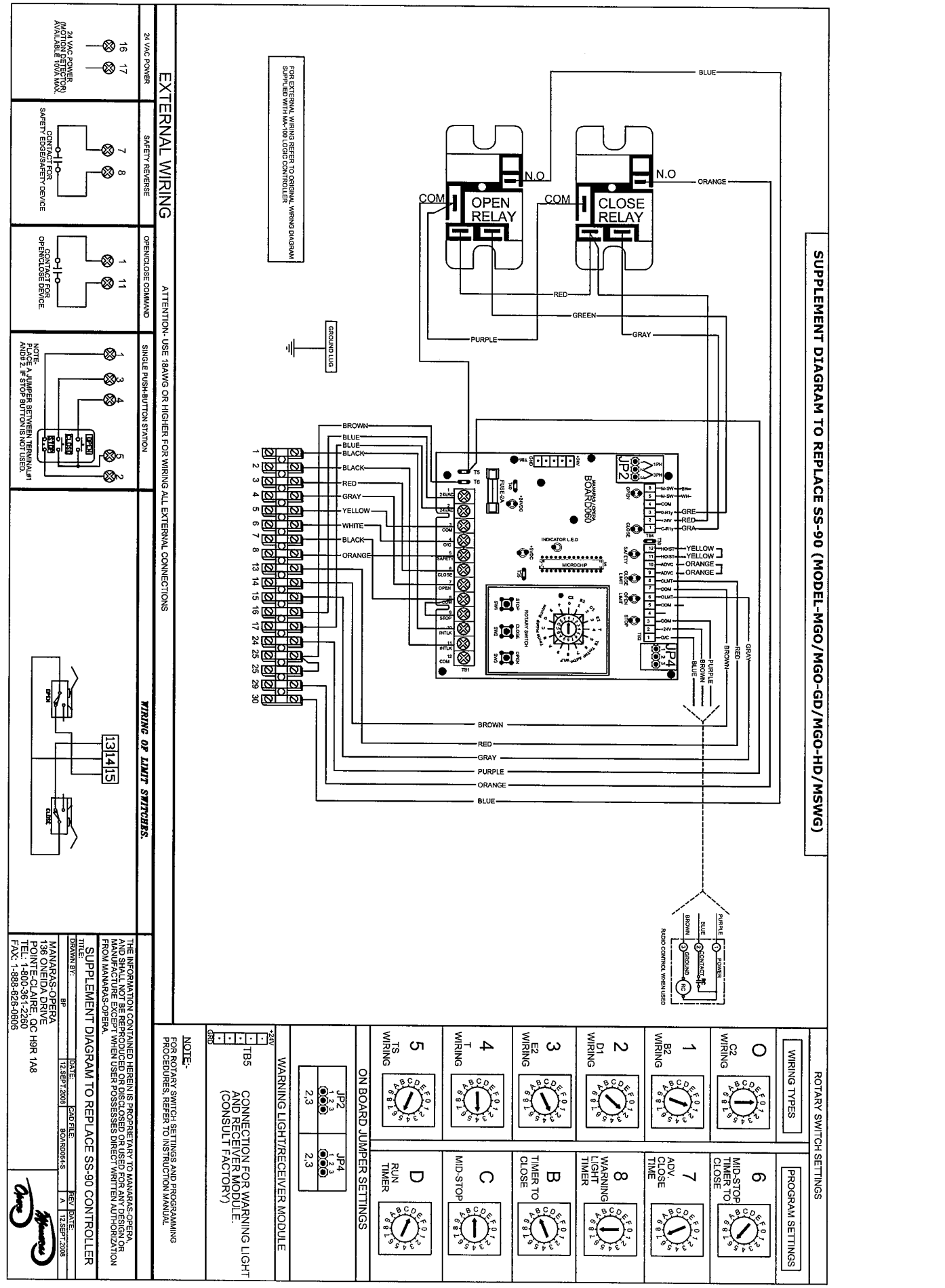
Disconnect wires from TBA terminal block	
Terminal No.	Not required must be removed completely
# 1	
# 2	

Disconnect wires from TBB terminal block		Connect to Manaras-Opera board
Terminal No	Wire Colour	Terminal No.
# 1	(PURPLE)	# 17
# 2	(WHITE)	# 16
# 3	(RED)	# 25
# 4	(YELLOW)	# 24

Disconnect wires From TBH terminal block	Connect to Manaras-Opera ECB (on board)
Terminal No.	Terminal No.
# 1	# +24V
# 2	# O/C
# 3	# COM

IMPORTANT

If the gate operator is equipped with Radio Receiver
Disconnect the 3 wires of the Radio Receiver on terminal TBH and connect the wires back to the terminals provided for the Radio Control on the ECB (Please refer to the table below and to the wiring diagram on page 5 and 6)


SUPPLEMENT DIAGRAM TO REPLACE SS-90 (MODEL-MGO/MGO-GD/MGO-HD/MSWG)
ROTARY SWITCH SETTINGS
WIRING TYPES
PROGRAM SETTINGS
0 C2 WIRING
1 B2 WIRING
2 D1 WIRING
3 E2 WIRING
4 T WIRING
5 TS WIRING
6 MID-STOP TIMER TO CLOSE
7 ADV. CLOSE TIME
8 WARNING LIGHT TIMER
B TIMER TO CLOSE
C MID-STOP
D RUN TIMER
ON BOARD JUMPER SETTINGS
JP2 2,3
JP4 2,3
WARNING LIGHT/RECEIVER MODULE
TB5
CONNECTION FOR WARNING LIGHT AND RECEIVER MODULE. (CONSULT FACTORY)
NOTE:- FOR ROTARY SWITCH SETTINGS AND PROGRAMMING PROCEDURES; REFER TO INSTRUCTION MANUAL
EXTERNAL WIRING
ATTENTION- USE 18AWG OR HIGHER FOR WIRING ALL EXTERNAL CONNECTIONS
24 VAC POWER
SAFETY REVERSE
OPEN/CLOSE COMMAND
SINGLE PUSH-BUTTON STATION
24 VAC POWER (MULTIPLE OUTPUTS AVAILABLE TOTAL MAX. 1A)
CONTACT FOR SAFETY EDGE/SAFETY DEVICE
CONTACT FOR OPEN/CLOSE DEVICE.
NOTE: PLACE A JUMPER BETWEEN TERMINAL#1 AND# 2. IF STOP BUTTON IS NOT USED.
WIRING OF LIMIT SWITCHES.
FOR EXTERNAL WIRING REFER TO ORIGINAL WIRING DIAGRAM SUPPLIED WITH MA-100 LOGIC CONTROLLER
GROUND LUG
OPEN RELAY
CLOSE RELAY
COM
N.O
BLUE
ORANGE
RED
GREEN
GRAY
PURPLE
BROWN
BLACK
YELLOW
WHITE
MICROCHIP
INDICATOR L.E.D
ROTARY SWITCH
FUSE 2A
RADIO CONTROL W/REN USED
GROUND
CONTACT
POWER
THE INFORMATION CONTAINED HEREIN IS PROPRIETARY TO MANARAS-OPERA AND SHALL NOT BE REPRODUCED OR DISCLOSED OR USED FOR ANY DESIGN OR MANUFACTURE EXCEPT WHEN USER POSSESSES DIRECT WRITTEN AUTHORIZATION FROM MANARAS-OPERA.
SUPPLEMENT DIAGRAM TO REPLACE SS-90 CONTROLLER
DRAWN BY: BP
DATE: 12 SEPT 2008
CAD FILE: BOARD086-S
REV: A
DATE: 12 SEPT 2008
MANARAS-OPERA
136 ONEIDA DRIVE
POINTE-CLAIRE, QC H9R 1A8
TEL: 1-800-361-2260
FAX: 1-888-626-0606

Program and Program settings

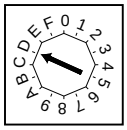
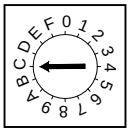
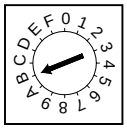
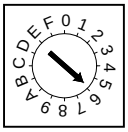
Programming ability and door control at electrical box are provided by Open/Close/Stop buttons and Select Switch located on the ECB.

- **Programs**

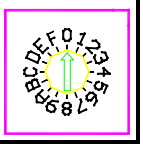
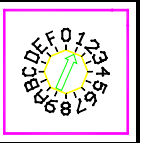
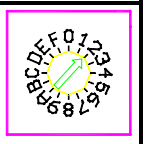
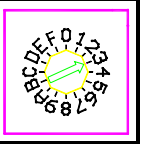
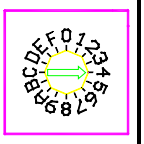
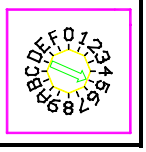
PROGRAMS	FUNCTIONS AND DESCRIPTIONS
RUN TIMER	The Run Timer stops automatically the operator after an adjustable time delay either travelling upwards or downwards. The Run Timer is designed to protect the door and the operator by preventing the motor over running much longer than the normal time.
MID-STOP	Mid-Stop function will, when active, move the door from the down position to a predetermined Mid-stop position when the open button or Open/Close device is activated. Once at Mid-Stop, subsequent Open/close commands will close the door. To move the door to full open position, the open button must be pressed again.
TIMER TO CLOSE	Timer to Close is a function that, when active, will close the door after an adjustable time delay once the door has reached its fully open and mid-stop position. The timer to close function works only in T and TS modes.
TIMER TO CLOSE (from fully open position only)	Option used in conjunction with MID STOP function. When activated, Timer to Close is active from the fully open position only and not from the mid-stop position.
ADVANCE CLOSED TIME	"Advance close limit switch" is not needed with this feature. Advance close time will disable the reversing device once the close limit switch is activated and will stop the door after 200 milliseconds before it reaches the fully closed position. *Note: Door distance traveled within these 200 milliseconds may vary depending upon the door speed*.

- **Program setting**

Door should be in fully closed position while setting of these following programs.

PROGRAM SETTING			
PROGRAMS	**ACTIVATE**	**DEACTIVATE**	**SELECT SWITCH**
RUN TIMER	• Check if close limit switch is activated. • Set select switch on D. • Press "Open" button to add 10 sec to the total time needed to open the door. • Set the select switch on run mode (0, 1, 2, 3, 4 or 5).	• Set select switch on D. • Press "Stop" button. • Set the select switch on run mode (0, 1, 2, 3, 4 or 5).	
MID-STOP	• Check if the close limit is activated. • Set select switch on "C". • Press "Open" button then press "Stop" button on desired Mid-Stop position. • Set the select switch back on run mode (0, 1, 4 or 5).	• Set select switch on "C". • Press "Stop", "Close" and "Open" buttons consecutively. • Set the select switch back on run mode (0, 1, 4 or 5).	
TIMER TO CLOSE	• Set select switch on "B". • Press "Open" button to add 15 sec or "Close" button to add 1 sec each time (max. 4 minutes & 15 seconds). • Set the select switch on T or TS mode.	• Set select switch on "B". • Press "Stop" button the timer to close is reset to 0 sec but still activated. • To deactivate the timer to close completely set the switch on desired position (0, 1, 2 or 3).	
TIMER TO CLOSE (from fully open position only)	• Set select switch on "6". • First press the "Close" button and then the "Stop" button. • Set the select switch on T or TS mode.	• Set select switch on "6". • Press "Close" button. • Set the select switch on T or TS mode. *Now the Timer to Close works from fully open and Mid-Stop positions.	
Controlling Timer to Close from floor level (using wall buttons)			
While door is in closed position, by pressing "Stop" 3 times and "Close" 3 times consecutively on the push button station, the timer to close is deactivated *(timer to close is suspended).*		Timer to close is re-activated *(timer to close is back to normal function*) when door is closed either from fully open or from mid-stop positions.	

Mode setting

Wiring Type	Wiring Type & Functions	Select Switch
C2 (factory preset)	**Set select switch on 0** Momentary contact to open and stop, constant pressure to close with 3 buttons station. Activation of safety devices will reverse the door during closing. Auxiliary devices function as an Open control and to reverse door during closing.	
B2	**Set the select switch on 1**. Momentary contact to Open/Close and Stop with 3 buttons station. Activation of safety devices will reverse the door during closing. Auxiliary devices function as Open/Close control and reverse the door during closing.	
D1	**Set the select switch on 2**. Constant pressure to Open and constant pressure to Close. Activation of safety devices will stop the door during closing.	
E2	**Set the select switch on 3** Momentary contact to open and constant pressure to Close. Release of Close button activates the door upwards. Activation of safety devices will reverse door motion to fully open position.	
T	**Set the select switch on 4**. Momentary contact to Open / Close and Stop. Timer to Close if programmed, safety devices reverse upon but will disable Timer to Close. Timer to close will also be disabled if there is a power outage, a chain hoist is engaged or the stop is pressed before elapsed time. The timer resumes its normal operation, once the close cycle is completed.	
TS	**Set the select switch on 5**. Momentary contact to Open / Close and Stop. Timer to Close if programmed, safety devices reverse upon activation and will refresh Timer to Close. Timer to close also gets refreshed, if there is a power outage, a chain hoist is engaged or a stop button is pressed before elapsed time.	

IMPORTANT NOTES:

- **STOP JUMPER**
  - While testing the operator or adjusting the cams using the O/C/S buttons available on the Electronic Control Board, a jumper should be placed between the #8 & #9. Once the tests or adjustments completed the jumper should removed before connecting the wall 3-push buttons station. Failure to remove the stop jumper, **the STOP BUTTON WILL NOT RESPOND**.

  - A stop jumper should be installed between #8 & #9 when using a Key switch, a single button Radio control or a 2-buttons station (Open/Close). **IN THESE CONDITIONS NO STOP COMMAND IS AVAILABLE TO STOP THE DOOR DURING THE TRAVELLING.**

WARNING

MOTORIZED DOORS CAN CAUSE SEVERE INJURY OR DEATH. MANARAS STRONGLY RECOMMENDS THE USE OF ENTRAPMENT PROTECTION SYSTEMS, ESPECIALLY IN THE CASES OF MOMENTARY CONTACT TO CLOSE (B2 WIRING) AND TIMER TO CLOSE (T & TS).

NOTES

Commercial Door OPERAtor

Manaras-Opera is extending their well-known OPERA brand name across its entire line of Commercial Door OPERAtors. Over the years, the OPERA brand name has become synonymous with innovation and reliability. The high quality products you have come to expect from us will now be backed by the OPERA brand name.

When you think Commercial Door OPERAtors, just think OPERA.

Call us for more information
1-800-361-2260

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