

# SS-90

## Logic Controller Replacement Board

MGO/MGO-GD/MGO-HD & MSWG



### WARNING

PLEASE READ THE INSTRUCTIONS SUPPLIED IN THIS MANUAL CAREFULLY BEFORE CHANGING ONE CONTROLLER OVER TO ANOTHER. NEGLECTING TO FOLLOW THESE INSTRUCTIONS WILL RESULT IN COMPLETE DAMAGE TO THE CONTROLLER. IF YOU ARE NOT CONFIDENT, PLEASE CONSULT MANARAS FOR ASSISTANCE.



The following instructions apply to all the gate operators built with SS-90 logic controller' model MGO/MGO-GD/MSWG/MGO-HD, 1 phase or 3 phase irrespective of the line voltage. We have tried every effort to minimize the time required to change over these boards.

Please follow the step-by-step changeover instructions before changing SS-90 Logic Control Board to Manaras Electronic Control Board (ECB).

**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 ECB, please refer to page 6 and 7 of this instruction manual.

- Disconnect all power to the gate operator.
- Remove the bolts holding the SS-90 Logic Control Board.
- Install the Manaras ECB and shall be install in the control box depending upon the space available.
- Refer to the tables below and remove all the wires from the following terminal blocks of SS-90 Logic Controller and connect to Manaras ECB.

**NOTE:** All wire coming from Terminal Blocks TBC, TBF, TBG, TBB and TBA) should be connected to the Manaras ECB terminals numbered 1 to 30. Also refer to electrical drawings on page 4 and 5.

- **Terminal Block – TBC**

Disconnect wires from from TBC terminal block		Connect to Manaras ECB
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)	

- **Terminal Block – TBF**

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

- **Terminal Block – TBG**

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

- **Terminal Block – TBB**

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

- **Terminal Block – TBA**

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

**If the gate operator is equipped with Radio Receiver**

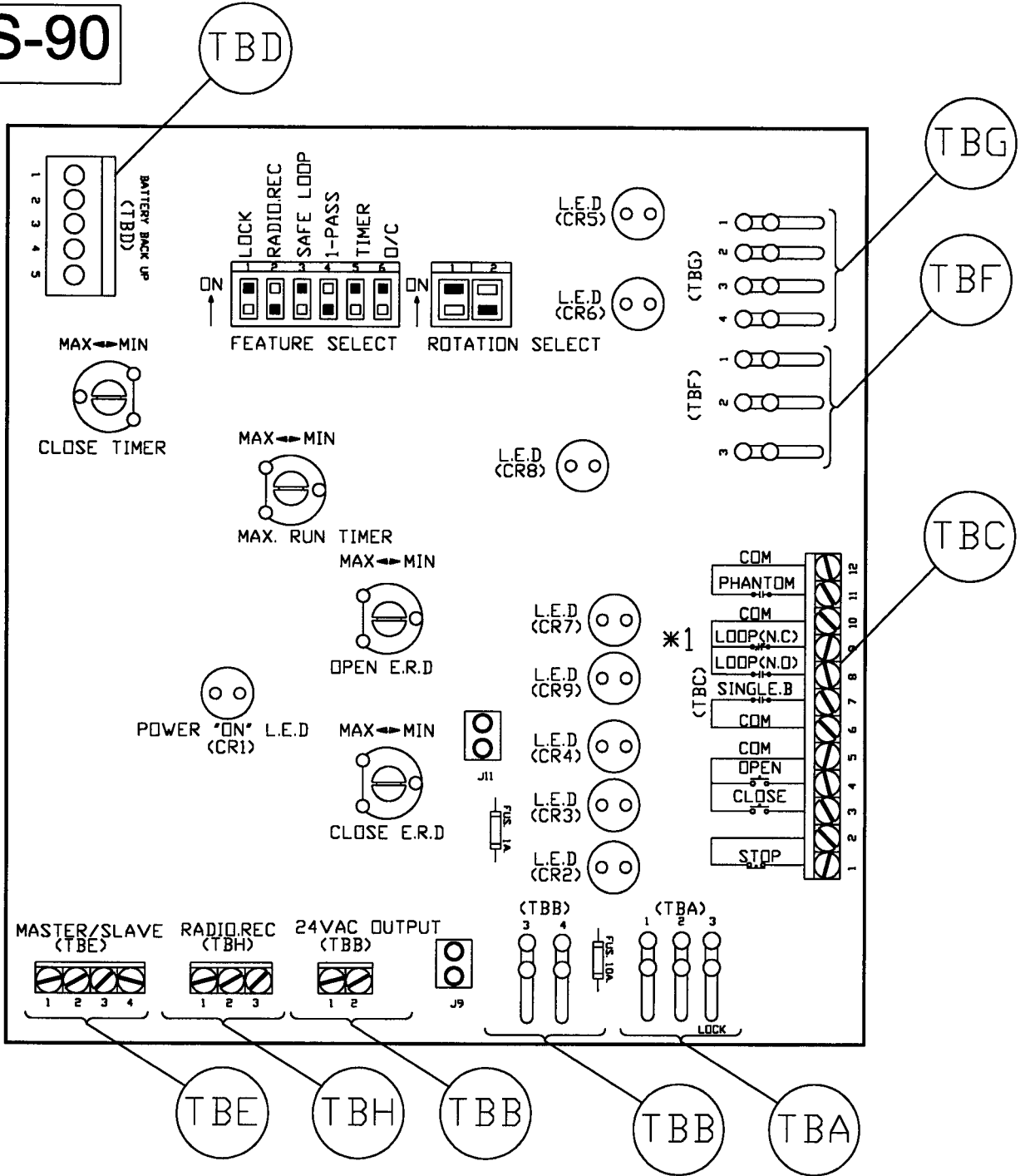
Disconnect the 3 wires of the Radio Receiver on terminal TBH and connect the wires back to the terminals provided for the Radio Control on the ECB (Please refer to the table below and to the wiring diagram on page 5 and 6)

- **Terminal Block – TBH**

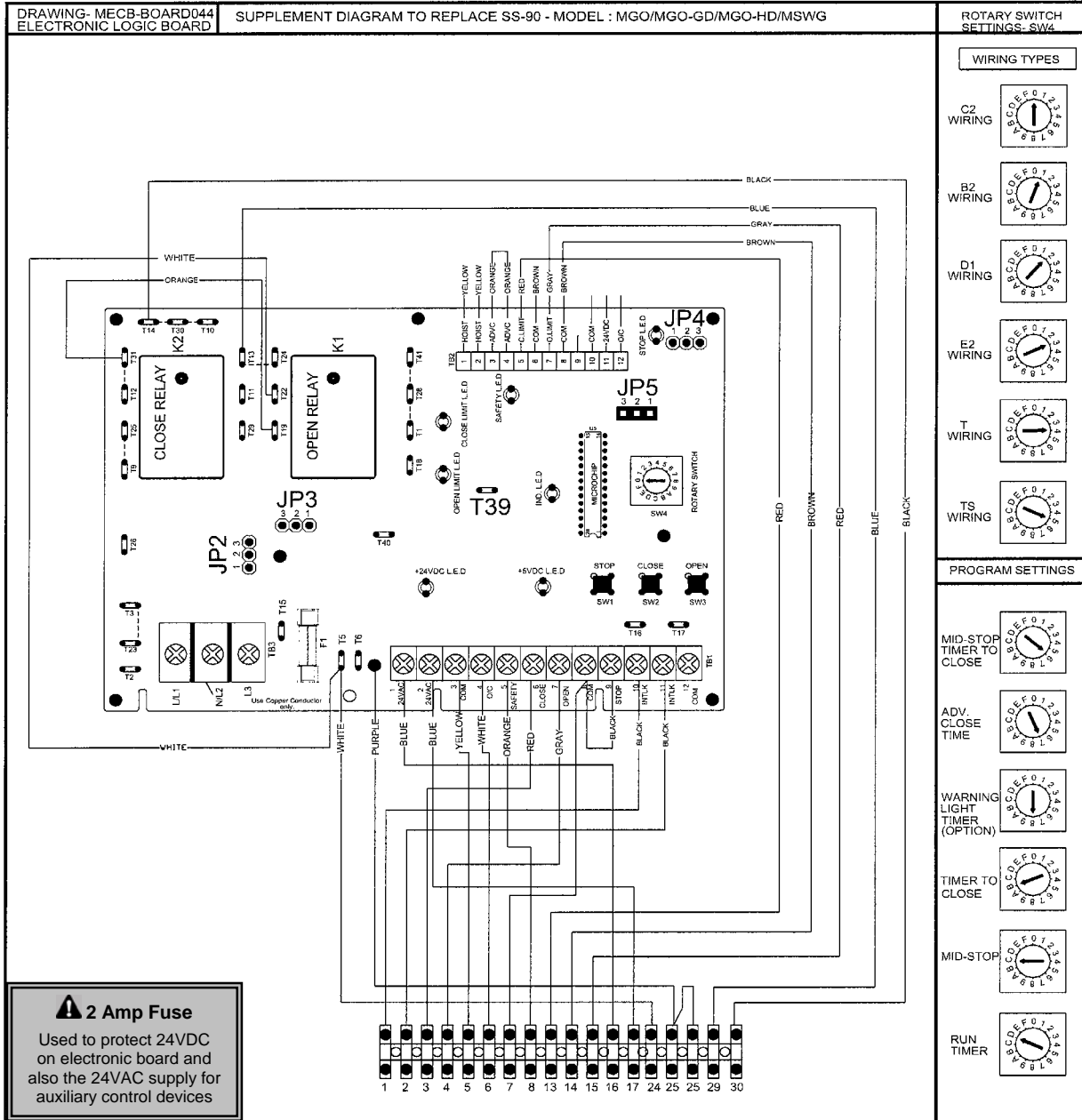
Disconnect wires from from TBH terminal block	Connect to Manaras ECB (on board)
Terminal No.	Terminal No.
# 1	# +24V
# 2	# O/C
# 3	# COM

# SS-90 Logic Control Board

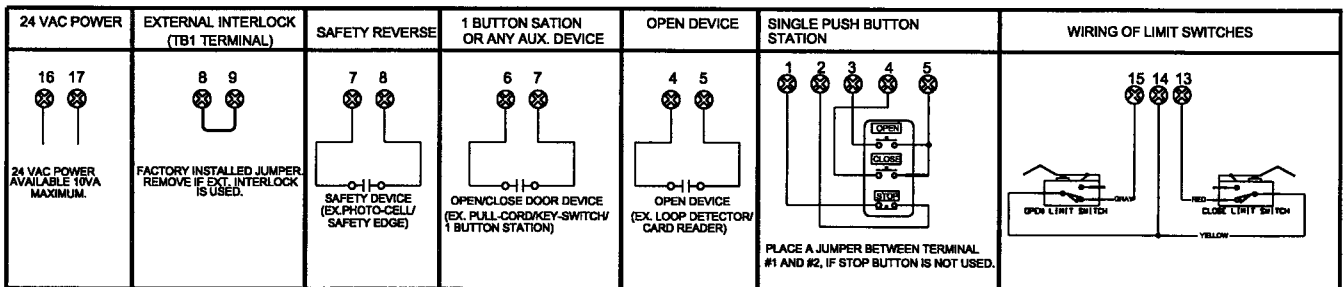
SS-90



# Manaras Electronic Control Board



## Wiring of external features



## Program and Program settings

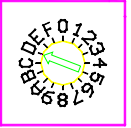
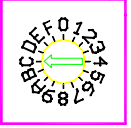
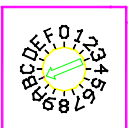
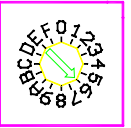
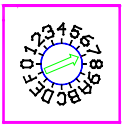
Programming ability and door control at electrical box are provided by Open/Close/Stop buttons and Select Switch located on the ECB.

- Programs**

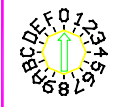
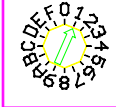

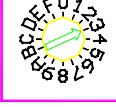
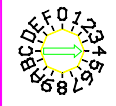
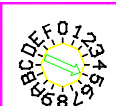
PROGRAMS	FUNCTIONS AND DESCRIPTIONS
<b>RUN TIMER</b>	The Run Timer stops automatically the operator after an adjustable time delay either travelling upwards or downwards. The Run Timer is designed to protect the door and the operator by preventing the motor over running much longer than the normal time.
<b>MID-STOP</b>	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.
<b>TIMER TO CLOSE</b>	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.
<b>TIMER TO CLOSE</b> (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.
<b>ADVANCE CLOSED TIME</b>	This feature, when programmed, allows adjustment of the safety device disabling point and to determine the final stop point of the door once the "close limit switch" is activated. No "advance close limit switch" is needed with this feature.

- Program setting**

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

PROGRAM SETTING			
PROGRAMS	ACTIVATE	DISACTIVATE	SELECT SWITCH
<b>RUN TIMER</b>	<ul style="list-style-type: none"> <li>Check if close limit switch is activated.</li> <li>Set select switch on D.</li> <li>Press "Open" button to add 10 sec to the total time needed to open the door.</li> </ul> Set the select switch on (0,1 or 2)	<ul style="list-style-type: none"> <li>Set select switch on D.</li> <li>Press "Stop" button.</li> </ul>	
<b>MID-STOP</b>	<ul style="list-style-type: none"> <li>Check the close limit is activated.</li> <li>Set select switch on "C"</li> <li>Press "Open" button then press "Stop" button on desired Mid-Stop position.</li> </ul>	<ul style="list-style-type: none"> <li>Set select switch on "C"</li> <li>Press "Close" button.</li> </ul>	
<b>TIMER TO CLOSE</b>	<ul style="list-style-type: none"> <li>Set select switch on "B"</li> <li>Press "Open" button to add 15 sec or "Close" button to add 1 sec each time (max. 4 minutes &amp; 30 seconds)</li> <li>Set the select switch on T(4) or TS(5) mode</li> </ul>	<ul style="list-style-type: none"> <li>Set select switch on "B"</li> <li>Press "Stop" button the timer to close is reset to 0 sec but still activated.</li> <li>To defeat the timer to close completely set the switch on desired position (0, 1, 2 or 3)</li> </ul>	
<b>TIMER TO CLOSE</b> (from fully open position only)	<ul style="list-style-type: none"> <li>Set select switch on "6"</li> <li>First press the "Close" button and then the "Stop"</li> </ul>	<ul style="list-style-type: none"> <li>Set select switch on "6"</li> <li>Press "Close" button.</li> </ul> *Now the Timer to Close works from fully open and Mid-Stop position.	
<b>ADVANCE CLOSED TIME</b>	<ul style="list-style-type: none"> <li>Set the select switch on "7"</li> <li>Press "Open" to add 50 milliseconds up to 500 milliseconds max.</li> <li>Press "Close" to deduct 50 milliseconds each time till it reaches 0/sec.</li> </ul>	<ul style="list-style-type: none"> <li>By pressing "Stop" the default time will be set to 100 milliseconds.</li> </ul> * LED "INDICAT" comes ON only when time is increased or reduced. LED OFF when open or close button is pressed indicates "Advance Close Time" is reached Maxi or Mini. (pressing "Stop" LED ON = 100 milliseconds)	
<b>The "close limit switch" should be readjusted when the "advance closed time" is programmed or deactivated</b>			

## MODE SETTING

Wiring Type	Wiring Type & Functions	Select Switch
<b>C2</b> (factory preset)	<b>Set select switch on 0</b> 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.	
<b>B2</b>	<b>Set the select switch on 1.</b> 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.	
<b>D1</b>	<b>Set the select switch on 2.</b> Constant pressure to Open and constant pressure to Close. Activation of safety devices will stop the door during closing.	
<b>E2</b>	<b>Set the select switch on 3</b> 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.	
<b>T</b>	<b>Set the select switch on 4.</b> 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.	
<b>TS</b>	<b>Set the select switch on 5.</b> 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).**



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