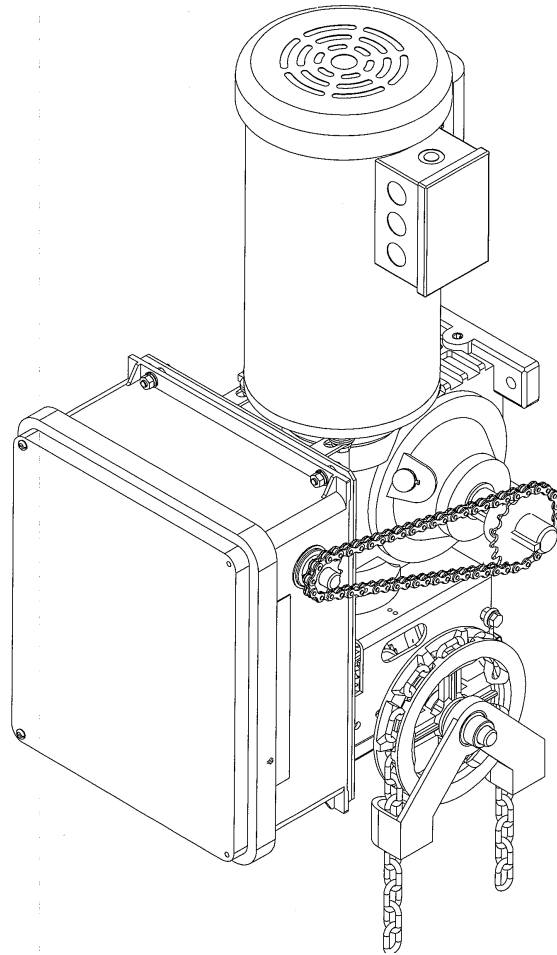


# Addendum – Environmental Applications



## **GHW – MGHW, MGTW & MGSLW (GHC – MGHC, MGTC & MGSLC)**

**Note:** This addendum is to be used in conjunction with the Installation & Instruction Manual supplied with the operator.

Waterproof or Corrosionproof operators are built with TEFC or TENV electric motors including a Watertight/Oil tight control enclosure, Nema4/12 or NEMA4X 3 push-button control station.

For a general information, refer to Installation and Instruction Manual supplied with the operator.

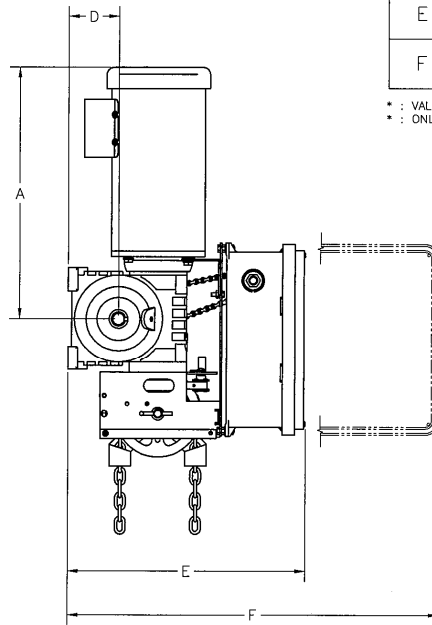
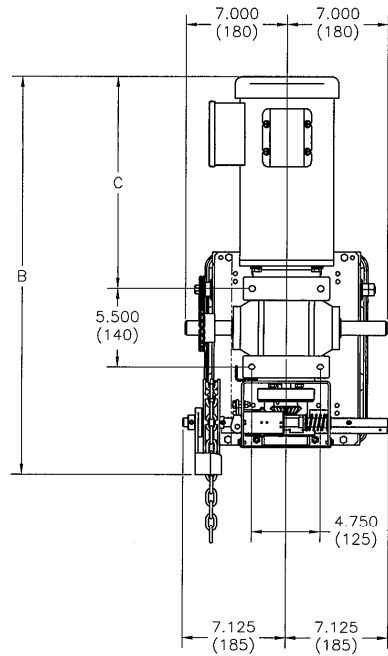


**SPECIFICATIONS**

**GENERAL**

SUPPLY VOLTAGE.....	115, 230 VAC single phase, 208, 460, 575VAC three phase
CONTROL VOLTAGE.....	24VAC class II transformer, 2 amps fuse type AC
MOTOR.....	Continuous duty: (GHW: 1/2, 3/4, 1, 1 1/2, 2HP) – (MGTW & MGSLW: 3/4, 1, 1 1/2HP) – (MGHW: 1/2, 3/4, 1, 1 1/2, 2, 3, 5HP)
OPERATOR OUTPUT SPEED.....	GHW - 38 RPM
NET WEIGHT (Operator only).....	+/- 119 Lbs (53.6 kg) for 1/2HP 115V - GHW model
STANDARD WIRING TYPE.....	C2-momentary contact to open and stop and constant pressure to close

**DIMENSIONS  
(GHW)**



	UP TO 1 HP	1.5 TO 2 HP
A*	16.875 (429)	17.625 (450)
B*	27.25 (693)	27.938 (710)
C*	14.125 (359)	14.875 (380)
D	3.000 (80)	3.500 (90)
E	15.500 (394)	16.750 (426)
F	24.875 (632)	25.875 (658)

\* : VALEURS À TITRE INDICATIF – PEUVENT VARIER SUIVANT LE MOTEUR  
 \* : ONLY FOR INFORMATION – CAN VARY

**IMPORTANT**

TO REDUCE THE RISK OF SEVERE INJURY OR DEATH, READ AND FOLLOW ALL INSTALLATION INSTRUCTIONS SUPPLIED WITH THE OPERATOR

- **CONDUITS AND FITTINGS FOR CONTROL BOX**

Compared to NEMA1 enclosures, the NEMA4/12 or NEMA4X enclosures are not supplied with pre-punched fitting entry holes to attach fittings for incoming power and other different accessories. All appropriate holes and cuttings should be performed by the customer.

- **Conduits and Fittings:**

Always use liquid-tight and flexible non-metallic conduits and fittings for that purpose. Use proper and appropriate cutting tools or jigs to cut the holes. While inserting the conduit to the fitting, ensure that the gland is properly compressed or the conduit jacket is not cut or ripped anywhere to avoid liquid leaking-in.

**NOTE:** Use materials as per NEMA guidelines and always follow manufactures instructions for conduit preparation.

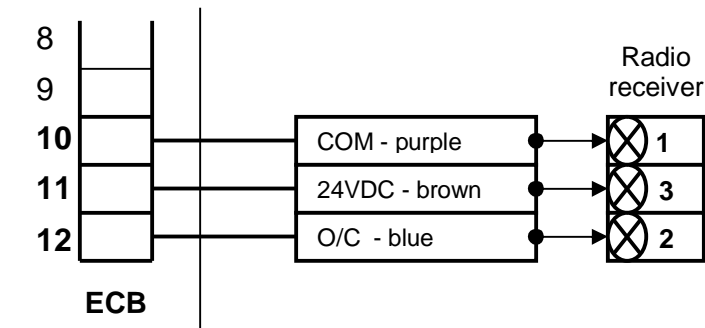
**WARNING**

GROUND THE UNIT CORRECTLY USING THE GROUND LUG LOCATED INSIDE THE OPERATOR CONTROL BOX

- **RADIO RECEIVER**

In NEMA4/12 or NEMA4X applications, no terminal strip is provided on the side the controlbox. If a 3-pin Radio Control unit is being used, for a hardwired unit, the radio receiver should be connected directly to the main terminal strip. In case of an ECB unit, appropriate terminals are provided on the electronic board to connect the radio receiver. **Radio Receiver should be located in a remote or protected area to avoid damage caused by liquid immersion.**

Please refer to the drawings below for wiring instructions.

**ELECTRONIC CONTROL BOARD****Part of ECB: bottom – Terminal Strip (TB2)**

## Connection Instructions

From ECB	To Radio Receiver
#COM	#1 (24 VOLTS)
#O/C	#2 (RELAY)
#24 V	#3 (COM OR GROUND)

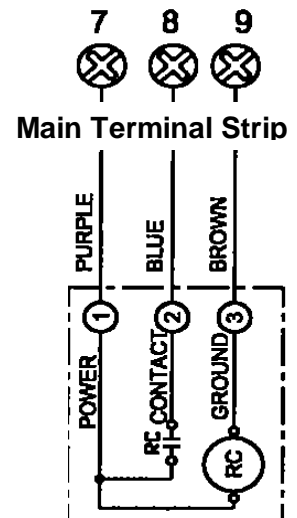
**HARDWIRED OPERATOR**

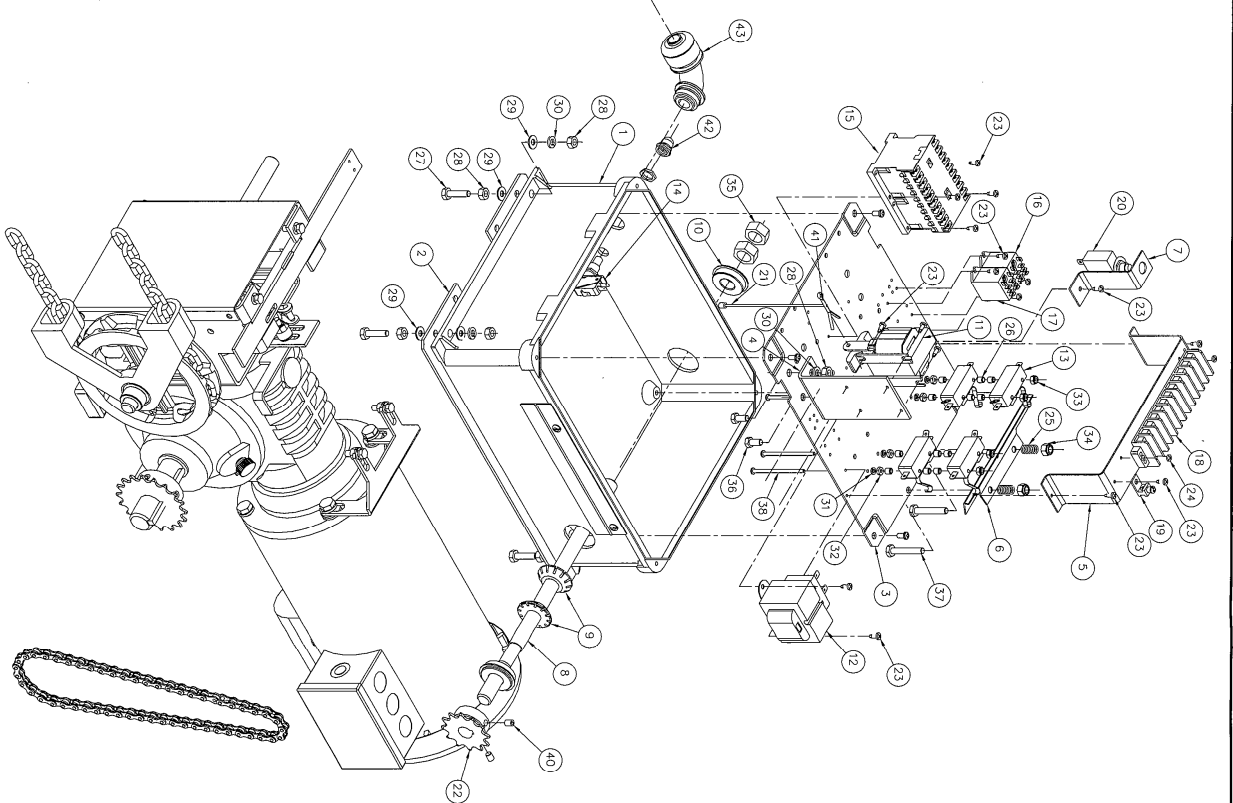
## Connection Instructions

From Terminal Strip	To Radio Receiver
# 7 (COM)	#1 (24 VOLTS)
#8 (O/C)	#2 (RELAY)
#9 (24 V)	#3 (COM OR GROUND)

**IMPORTANT NOTE:**

For MCR-32 Model Receivers, please refer to the Technical Note supplied with the unit.






PARTS IDENTIFICATION			MANAARAS	REV
#	QTY	DESCRIPTION		
1	1	WASHER N-4X 12 X .10 X .5	PANEL078	
2	1	CONTROL BOX SUPPORT PLATE CANG	PLATE038	D
3	1	PLATE IN BOX WP/CP	PLATE079	D
4	1	XP/WP GBOX SOLENOID	BRACKET078	C
5	1	WATERPROOF CBOX TSTRIP SUPPORT	BRACKET078	D
6	1	MTH/MTHB CAMP/PLATE N-1	CAMP/PLATE012	A
7	1	TOGGLE SWITCH BRACKET (PH ONLY)	BRACKET097	A
8	1	ROCK CHX LIMIT SWITCH 5/8-24X12	SW-1004	A
9	2	LIMIT CUM 5/8-24 UNIF	CUM004	C
10	2	LIMIT CUM FLANGED 5/8 PRECISION	SC-ENDDX	C
11	1	SC ENDD	SC-ENDDX	C
12	1	TRANSO	TRANS00X	C
13	4	SINGLE LIM SW-FLYER	LIMIT007	C
14	1	LIMIT 10A 250V AC	LIMIT017	C
15	1	LIMIT 10A 250V AC	LIMIT017	C
16	1	CONTRACTOR	CONTRACTOR000	C
17	1	DPOIT 24V RELAY	RELAY024	C
18	1	TERMINAL STRIP 12 POSITION	RELAY000	C
19	1	GROUND LUG TAB (IG-UL)	TSRIP001	C
20	1	RESET (I PHASE ONLY)	CONNECTOR039	C
21	1	RESIST (I PHASE ONLY)	RESIST00X	C
22	1	SPR418125/8 250V 1/4	CABLE015	C
23	18	SELF TAPPING SCREW 6/32X1/8 F	SPR418125/8	C
24	2	SELF TAPPING SCREW 6/32X1/8 F	SPR418125/8	C
25	2	CAM GUIDE PLATE SPRING C260047	SPRING001	C
26	12	LIMIT SWITCH SPACER 1/4 X 1/4	SPACER001	C
27	4	HEX HD BOLT 250-20 UNC X 1.0	BOLT004	C
28	10	NUT .250-20 UNC	NUT006	C
29	8	FW/4 BS3/16 (.250X.562X.049)	WASHER003	C
30	4	LOCK WASHER 1/4	WASHER026	C
31	4	HEX NUT 6/32	NUT002	C
32	4	HEX NUT 6/32	NUT002	C
33	4	INSERT NUT N10N 6/32	NUT010	C
34	2	INSERT NUT N10N 250-20 UNC	NUT020	C
35	2	HEX HEAD BOLT 1/4 X 1 1/2	BOLT001	C
36	2	HEX HEAD BOLT 1/4 X 1 1/2	BOLT001	C
37	2	HEX HEAD BOLT 1/4 X 1 1/2	BOLT001	C
38	4	MACHINE SCREW 6-32 X 2 1/2	SCREW006	C
39	4	MACHINE SCREW 10-32 X 3/8	SCREW003	C
40	1	SET SCREW 1/4-20-5/16 KNURLED	SCREW001	C
41	1	COTTER PIN 1/8 X 1-1/2	PIN001	C
42	1	RUBBER BOOT FOR SWITCH	CAP001	C
43	1	BR CONNECTOR WATERTIGHT 90 DEG	ADAPTER007	C

FOR MECHANICAL PARTS REFER TO DRAWING:  
 GH SINGLE PHASE 1.5 TO 2 HP  
 OR  
 GH SINGLE PHASE UP TO 1 HP

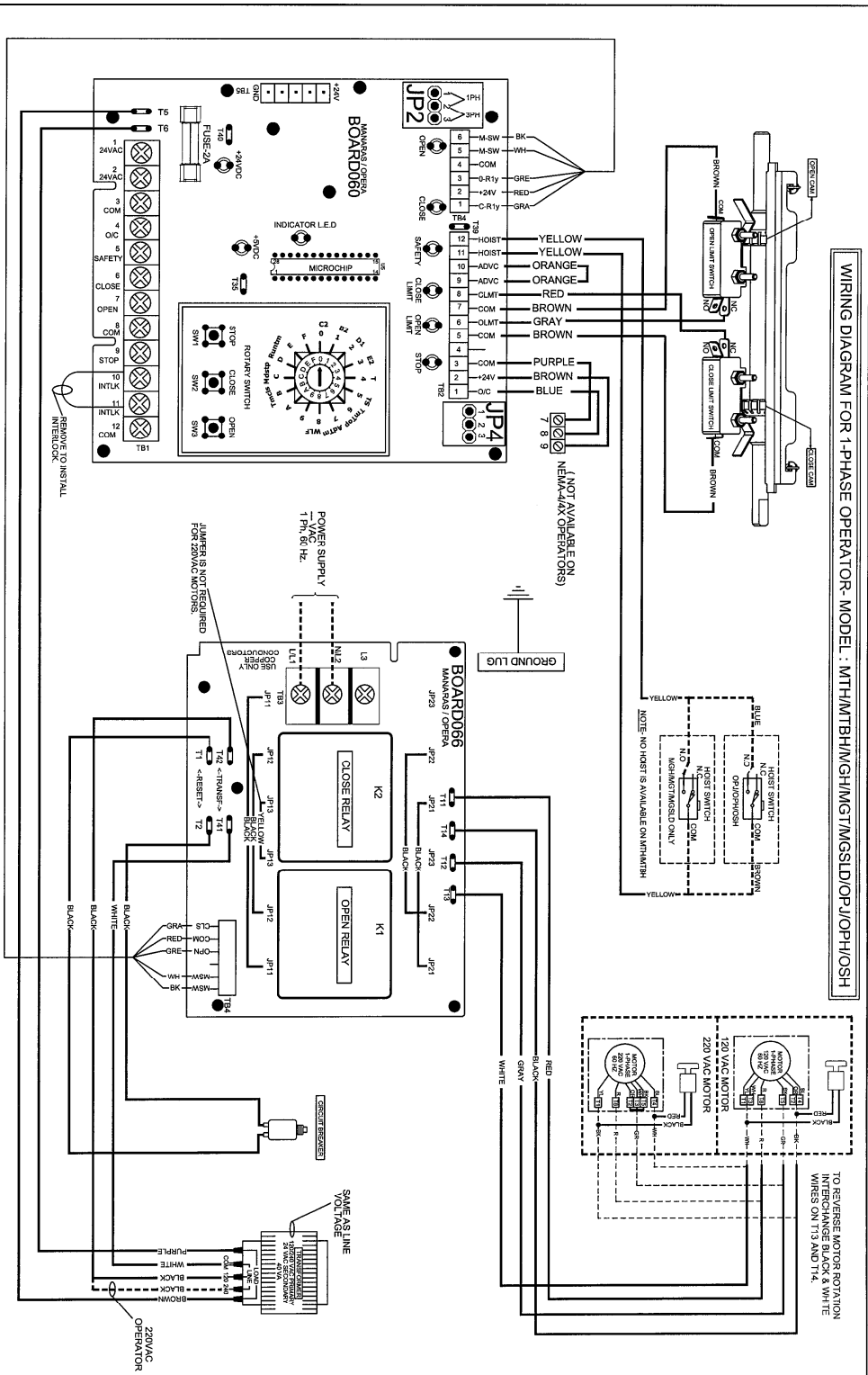
THE INFORMATION CONTAINED HEREIN IS PROPRIETARY TO MANAARAS AND SHALL NOT BE REPRODUCED OR DISCLOSED OR USED FOR ANY DESIGN OR MANUFACTURE EXCEPT WHEN USER POSSESSOR'S DIRECT WRITTEN PERMISSION IS OBTAINED FROM MANAARAS.

MANAARAS  
 136 ONEDA DRIVE  
 POINTE-CLAIRE, QC J9R 1A8  
 TEL: 514 426 4330  
 FAX: 514 426 4330

GHW  
 GHW-X

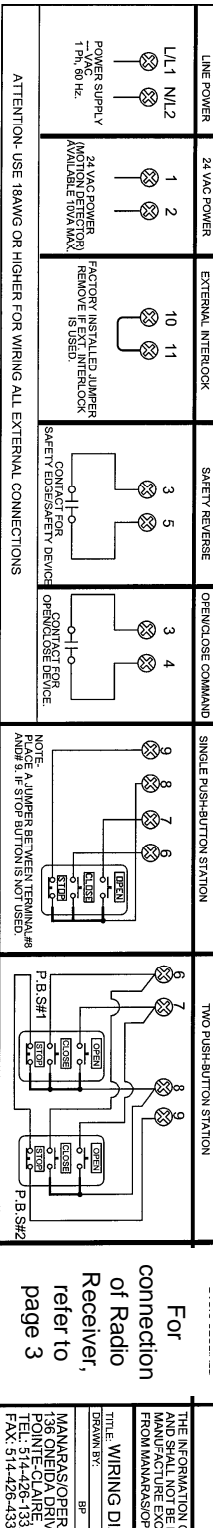


# Single phase ECB wiring diagram



WIRING DIAGRAM FOR 1-PHASE OPERATOR- MODEL : MTH/MTBH/MGH/MGT/MSLD/OP/JOP/HOSH

## EXTERNAL WIRING



For connection of Radio Receiver, refer to page 3

THE INFORMATION CONTAINED HEREIN IS PROPRIETARY TO MANNARAS/OPERA AND SHALL NOT BE REPRODUCED OR DISCLOSED OR USED FOR ANY DESIGN OR MANUFACTURE EXCEPT WHEN USER POSSESSES DIRECT WRITTEN AUTHORIZATION FROM MANNARAS/OPERA.

TITLE: WIRING DIAGRAM, 120/208/220VAC, 1-PHASE (Nema-4)

MANARAS/OPERA 136 ONEIDA DRIVE  
 TEL: 514-426-4330 FAX: 514-426-4330

## ROTARY SWITCH SETTINGS

WIRING TYPES	PROGRAM SETTINGS
0 C2 WIRING	6 MID-STOP TIMER TO CLOSE
1 P2 WIRING	7 ADV. CLOSE TIME
2 D1 WIRING	8 WARNING LIGHT TIMER
3 D1 WIRING	B TIMER TO CLOSE
4 T WIRING	C MID-STOP
5 TS WIRING	D RUN TIMER

ON BOARD JUMPER SETTINGS

JP2  
 1 2 3  
 1.2  
 2.3

WARNING LIGHT/RECEIVER MODULE

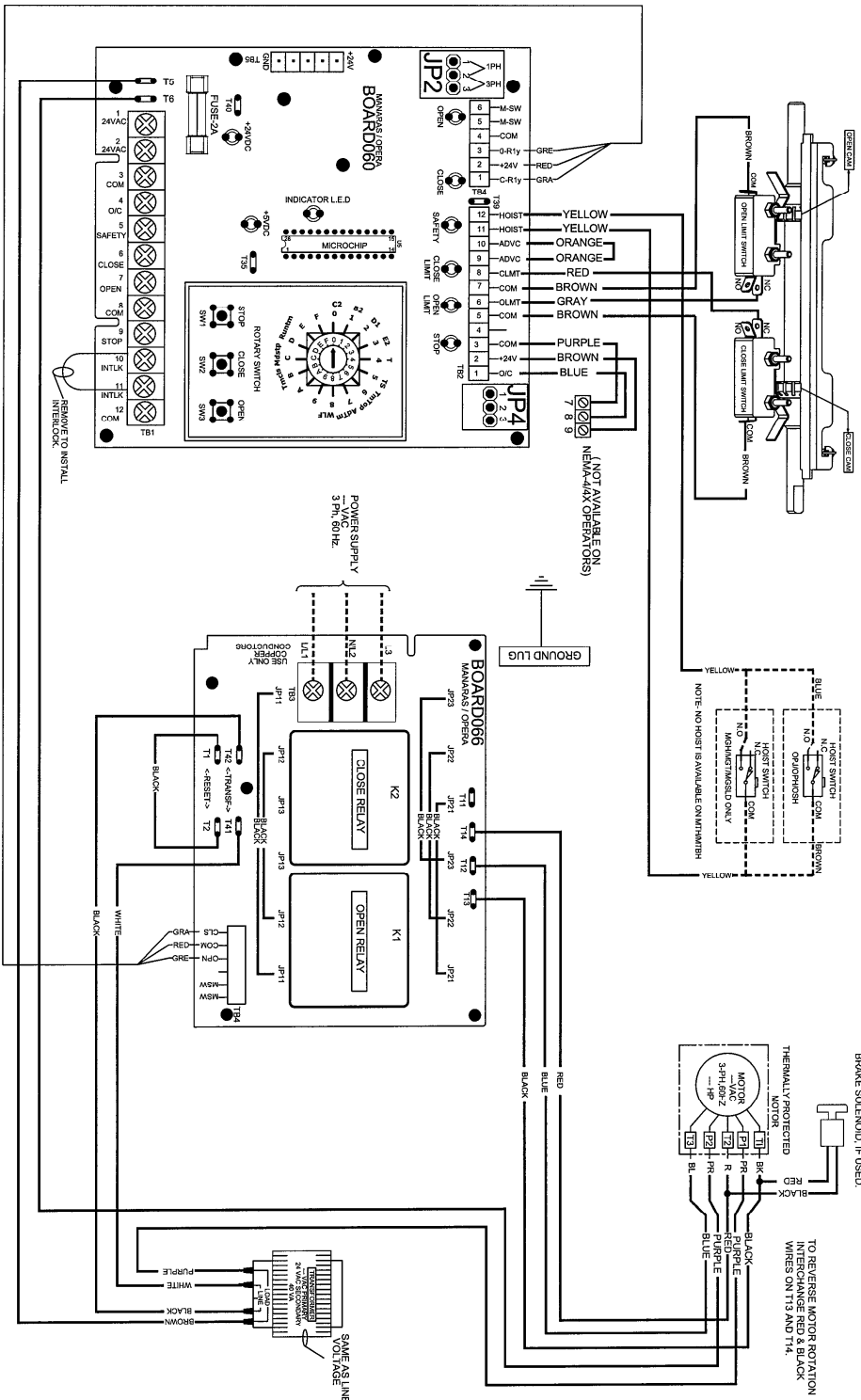
CONNECTION FOR WARNING LIGHT AND RECEIVER MODULE. (CONSULT FACTORY)

NOTE:  
 FOR ROTARY SWITCH SETTINGS AND PROGRAMMING PROCEDURES, REFER TO INSTRUCTION MANUAL.



### 3 - phase ECB wiring diagram

WIRING DIAGRAM FOR 1-PHASE OPERATOR - MODEL : MTH/MTB/MGH/MGT/MGSL/D/OP/PH/OSH



LINE POWER	EXTERNAL INTERLOCK	SAFETY REVERSE	OPEN/CLOSE COMMAND	SINGLE PUSH-BUTTON STATION	TWO PUSH-BUTTON STATION
L1,1 N1,2 L3 POWER SUPPLY 3 Ph, 60 Hz	1 2 24 VAC POWER FACTORY INSTALLED JUMPER REMOVE IF EXT. INTERLOCK IS USED.	3 5 CONTACT FOR SAFETY REVERSE/SAFETY DEVICE	3 4 OPEN/CLOSE DEVICE	6 7 8 NOTE: PLUG A JUMPER BETWEEN TERMINALS 6 AND 9. IF STOP BUTTON IS NOT USED.	7 8 9 P.B.#1 P.B.#2

EXTERNAL INTERLOCK	SAFETY REVERSE	OPEN/CLOSE COMMAND	SINGLE PUSH-BUTTON STATION	TWO PUSH-BUTTON STATION
10 11 FACTORY INSTALLED JUMPER REMOVE IF EXT. INTERLOCK IS USED.	3 5 CONTACT FOR SAFETY REVERSE/SAFETY DEVICE	3 4 OPEN/CLOSE DEVICE	6 7 8 NOTE: PLUG A JUMPER BETWEEN TERMINALS 6 AND 9. IF STOP BUTTON IS NOT USED.	7 8 9 P.B.#1 P.B.#2

WIRING TYPES	PROGRAM SETTINGS
0 C2 WIRING	6 MID-STOP TIMER TO CLOSE
1 P2 WIRING	7 ADV. CLOSE TIME
2 D1 WIRING	8 WARNING LIGHT TIMER
3 E2 WIRING	B TIMER TO CLOSE
4 T WIRING	C MID-STOP
5 TS WIRING	D RUN TIMER

FOR ROTARY SWITCH SETTINGS AND PROGRAMMING PROCEDURES, REFER TO INSTRUCTION MANUAL.

### EXTERNAL WIRING

THE INFORMATION CONTAINED HEREIN IS PROPRIETARY TO MANARAS/OPERA AND SHALL NOT BE REPRODUCED OR USED FOR ANY DESIGN OR MANUFACTURE EXCEPT WHEN USER POSSESSES DIRECT WRITTEN AUTHORIZATION FROM MANARAS/OPERA.

FOR ROTARY SWITCH SETTINGS AND PROGRAMMING PROCEDURES, REFER TO INSTRUCTION MANUAL.

CONNECTION FOR WARNING LIGHT AND RECEIVER MODULE (CONSULT FACTORY)

WARNING LIGHT/RECEIVER MODULE

24VAC 208/480/575 VAC 2,3

JP2 1 2 3 1.2 2.3

JP1 DISCONNECT 1 2 3 1.2 2.3

24VAC 208/480/575 VAC 2,3

JP2 1 2 3 1.2 2.3

24VAC 208/480/575 VAC 2,3

JP2 1 2 3 1.2 2.3

24VAC 208/480/575 VAC 2,3

JP2 1 2 3 1.2 2.3

24VAC 208/480/575 VAC 2,3

JP2 1 2 3 1.2 2.3

24VAC 208/480/575 VAC 2,3

JP2 1 2 3 1.2 2.3

24VAC 208/480/575 VAC 2,3

JP2 1 2 3 1.2 2.3

24VAC 208/480/575 VAC 2,3

JP2 1 2 3 1.2 2.3

24VAC 208/480/575 VAC 2,3

JP2 1 2 3 1.2 2.3

24VAC 208/480/575 VAC 2,3

JP2 1 2 3 1.2 2.3

24VAC 208/480/575 VAC 2,3

JP2 1 2 3 1.2 2.3

24VAC 208/480/575 VAC 2,3

JP2 1 2 3 1.2 2.3

24VAC 208/480/575 VAC 2,3

JP2 1 2 3 1.2 2.3

24VAC 208/480/575 VAC 2,3

JP2 1 2 3 1.2 2.3

24VAC 208/480/575 VAC 2,3

JP2 1 2 3 1.2 2.3

24VAC 208/480/575 VAC 2,3

JP2 1 2 3 1.2 2.3

24VAC 208/480/575 VAC 2,3

JP2 1 2 3 1.2 2.3

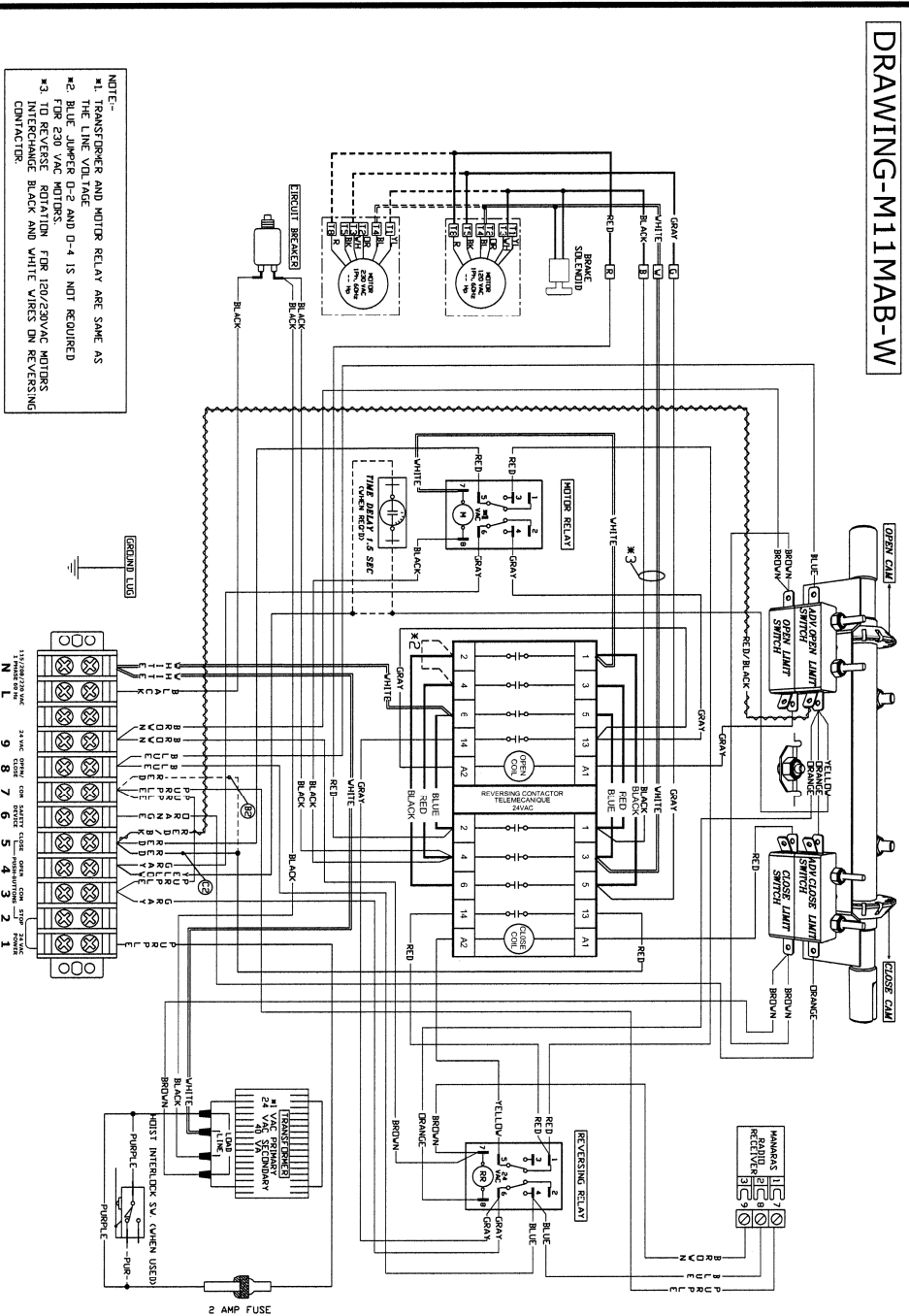
24VAC 208/480/575 VAC 2,3

MANARAS/OPERA 208/460/575VAC, 3- PHASE (Nema-4)  
136 ONIEDA DRIVE  
P.O. BOX 148  
TEL: 1-800-381-2260  
FAX: 1-888-525-0060



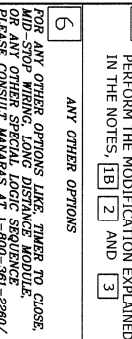
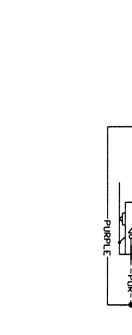
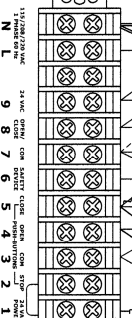
# Single phase hardwired wiring diagram

## DRAWING-M11MAB-W



- NOTE:
- \*1. TRANSFORMER AND MOTOR RELAY ARE SAME AS THE LINE VOLTAGE.
  - \*2. BLUE JUMPER D-2 AND D-4 IS NOT REQUIRED FOR 230 VAC MOTORS.
  - \*3. TO REVERSE MOTORS FOR 120V/230VAC MOTORS INTERCHANGE BLACK AND WHITE WIRES ON REVERSING CONDUCTOR.

GROUND LUG



LINE POWER	24 VAC POWER	EXTERNAL INTERLOCK	SAFETY REVERSE	OPEN/CLOSE COMMAND	PUSH-BUTTON STATION	TWO PUSH-BUTTON STATION	RADIO CONTROL
L N	1 9	1 2	3 6	7 8	2 3 4 5	2 3 4 5	
POWER SUPPLY 115VAC/60 HZ	24 VAC POWER AVAILABLE 18VA MAX	FACTORY INSTALLED JUMPER REMOVE IF EXI INTERLOCK IS USED	SAFETY EDGE/SAFETY DEVICE CONTACT FOR	CONTACT FOR OPEN/CLOSE DEVICE			
ATTENTION- USE 18AVG OR HIGHER FOR WIRING ALL EXTERNAL CONNECTIONS							

NOTE- PLACE A JUMPER BETWEEN TERMINAL 2 AND TERMINAL 3 IF STOP BUTTON IS NOT USED

For connection of Radio Receiver, refer to page 3



- 1 ON SITE MODIFICATIONS
  - NOTE-(A)/(B)
    - C2 ↔ B2
  - 1A REMOVE THE RED WIRE WITH RAPID CONNECTOR FROM TERMINAL #5, AND TRANSFER IT TO TERMINAL #7.
  - 1B REMOVE THE RED WIRE WITH RAPID CONNECTOR FROM TERMINAL #7, AND TRANSFER IT TO TERMINAL #5.
    - B2 ↔ C2
- 2 CONSTANT PRESSURE OPEN
- 3 WIRING FOR INSTANT STOP (ON SAFETY EDGE OR DEVICE)
  1. REMOVE THE YELLOW WIRE FROM ADV. OPEN LIGHT SWITCH, AND CAP IT.
  2. REMOVE THE BLUE WIRE FROM PIN # 4 OR REVERSING RELAY(RR) AND CAP IT.
- 4 ADDING A TIME DELAY ON REVERSES
  1. REMOVE THE YELLOW WIRE FROM ADV. OPEN LIGHT SWITCH, CONNECTS TO RED/BLACK
  2. REMOVE THE BLUE WIRE FROM ADV. OPEN LIGHT SWITCH, CONNECTS TO RED/BLACK
  3. REMOVE THE PURPLE WIRE FROM ADV. OPEN LIGHT SWITCH, CONNECTS TO RED/BLACK
- 5 CONSTANT PRESSURE OPEN & CLOSE- DI PERFORM THE MODIFICATION EXPLAINED IN THE NOTES 1B 2 AND 3
- 6 ANY OTHER OPTIONS
 

FOR ANY OTHER OPTIONS LIKE: TIMER TO CLOSE, MID-STOP WIRING, LONG DISTANCE MODULE OR ANY OTHER SPECIAL LOGIC SEQUENCE PLEASE CONSULT MANARAS AT 1-800-561-2280/1-800-561-2281

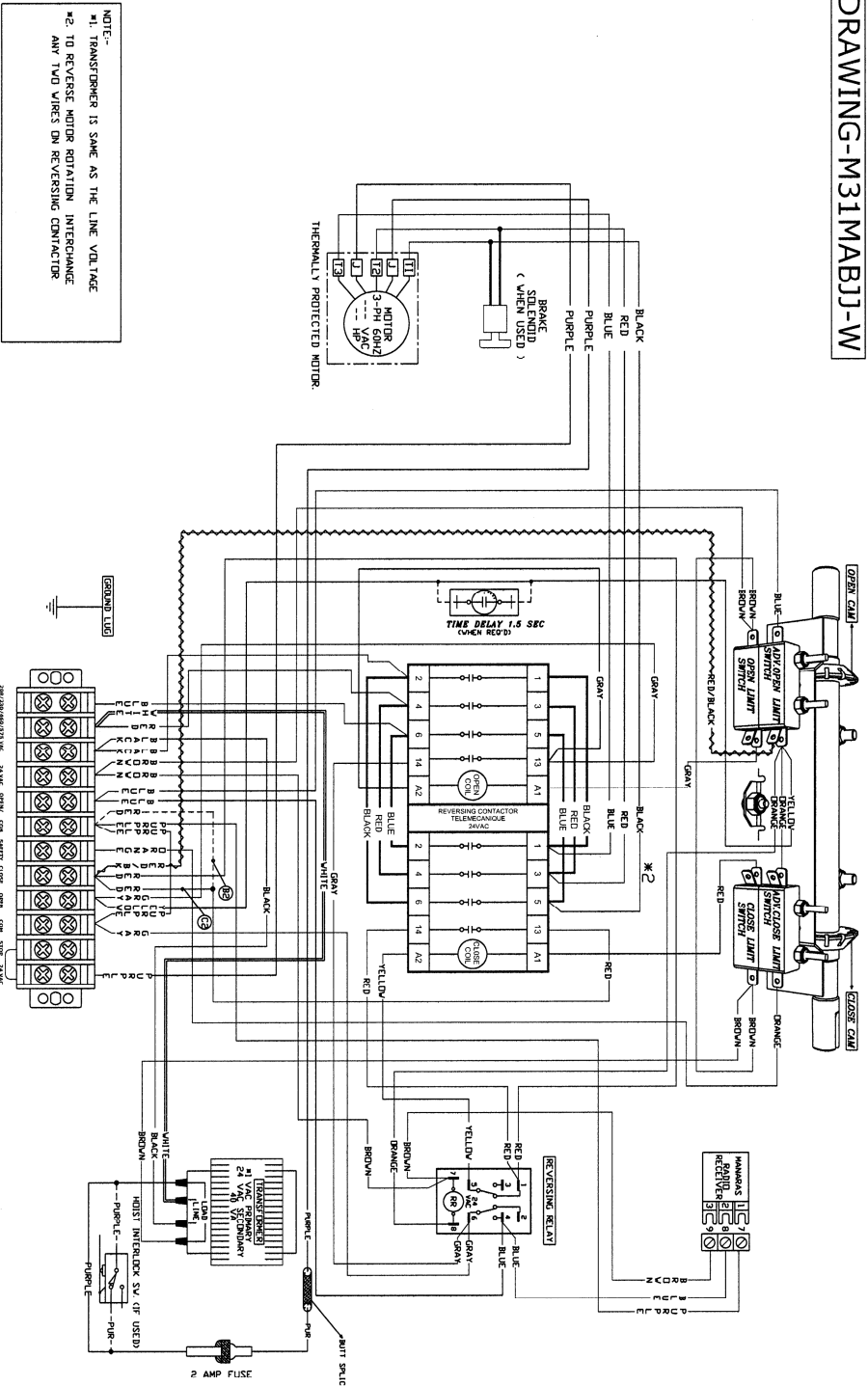
WIRING DIAGRAM FOR M/M/S/MT/MT/HTH 120/230 VAC, 1 PHASE MOTORS

PROJECT: M11MAB-W  
 DATE: 14 OCT 2004  
 CLIENT: MARS  
 ENGINEER: MARS  
 DISTRI BUTOR: MARS  
 M.F.D. BY: MANARAS AUTO DOORS INC.



### 3 - phase hardwired wiring diagram

## DRAWING-M31MABJ-W



<b>LINE POWER</b>	<b>24 VAC POWER</b>	<b>EXTERNAL INTERLOCK</b>	<b>SAFETY REVERSE</b>	<b>OPEN/CLOSE COMMAND</b>	<b>PUSH-BUTTON STATION</b>	<b>TWO PUSH-BUTTON STATION</b>	<b>RADIO CONTROL</b>
L1 L2 L3 POWER SUPPLY 3 PH, 60 HZ	1 9 24 VAC POWER AVAILABLE FROM MAX.	1 2 FACTORY INSTALLED JUMPER REMOVE IF EXTN INTERLOCK IS USED	3 6 CONTACT FOR SAFETY END/SAFETY DEVICE	7 8 CONTACT FOR OPEN/CLOSE DEVICE	2 3 4 5 STOP STOP STOP STOP	2 3 4 5 STOP STOP STOP STOP	2 3 STOP STOP

ATTENTION- USE 18AVG OR HIGHER FOR WIRING ALL EXTERNAL CONNECTIONS

NOTE- PLACE A JUMPER BETWEEN TERMINAL 2 AND TERMINAL 3 IF STOP BUTTON IS NOT USED

- 1 ON SITE MODIFICATIONS
  - NOTE (C2) (B2)  
C2 ⇔ B2  
REMOVE THE RED WIRE WITH RAPID CONNECTOR FROM TERMINAL #5, AND TRANSFER IT TO TERMINAL #7.  
B2 ⇔ C2
  - (B) REMOVE THE RED WIRE WITH RAPID CONNECTOR FROM TERMINAL #7, AND TRANSFER IT TO TERMINAL #5.
  - WARNING:  
MOTORISED DOORS CAN CAUSE SERIOUS INJURIES OR DEATH. MANARAS STRONGLY RECOMMENDS THE USE OF ENTRAPMENT PROTECTION SYSTEMS, ESPECIALLY IN THE CASES OF MOMENTARY CONTACT TO CLOSE AS IN B2 WIRING OR TIMER TO CLOSE.
  - 2 CONSTANT PRESSURE OPEN  
1. REMOVE THE GRAY WIRE FROM TERMINAL #3 AND PLACE IT ON TERMINAL #4
  - 3 WIRING FOR INSTANT STOP (ON SAFETY EDGE OR DEVICE)  
1. REMOVE THE YELLOW WIRE FROM ADV. OPEN LIMIT SWITCH, AND CAP IT.  
2. REMOVE THE BLUE WIRE FROM PIN #4 OR REVERSING RELAY(S) AND CAP IT.
  - 4 ADDING A TIME DELAY ON REVERSE  
1. REMOVE THE YELLOW WIRE FROM THE STOP SWITCH.  
2. REMOVE OTHER END OF THE TIME-DELAY WIRE TO ONE END OF THE TIME-DELAY SWITCH.  
3. REMOVE OTHER END OF THE TIME-DELAY WIRE TO THE OTHER END OF THE STOP SWITCH.
  - 5 CONSTANT PRESSURE OPEN & CLOSE- DI PERFORM THE MODIFICATION EXPLAINED IN THE NOTES, (B) (2) AND (3)
  - 6 ANY OTHER OPTIONS  
FOR ANY OTHER OPTIONS LINK, TIMER TO CLOSE, STOP SWITCH, LONG DISTANCE MODULE, OR REVERSE MOTOR, PLEASE CONSULT MANARAS AT 1-800-381-2860/1-866-77-6737(USA)
- WIRING DIAGRAM FOR M31MABJ-W
- 208/460/575 VAC, 3 PHASE MOTORS
- TITLE: M31MABJ-W  
 DESIGNED BY: [ ]  
 PROJECT: [ ]  
 CLIENT: [ ]  
 ENGINEER: [ ]  
 DISTRIBUTOR: [ ]  
 M.F.D. BY: MANARAS AUTO DOORS INC.
- DATE: 1.4.2017, 8:00A

