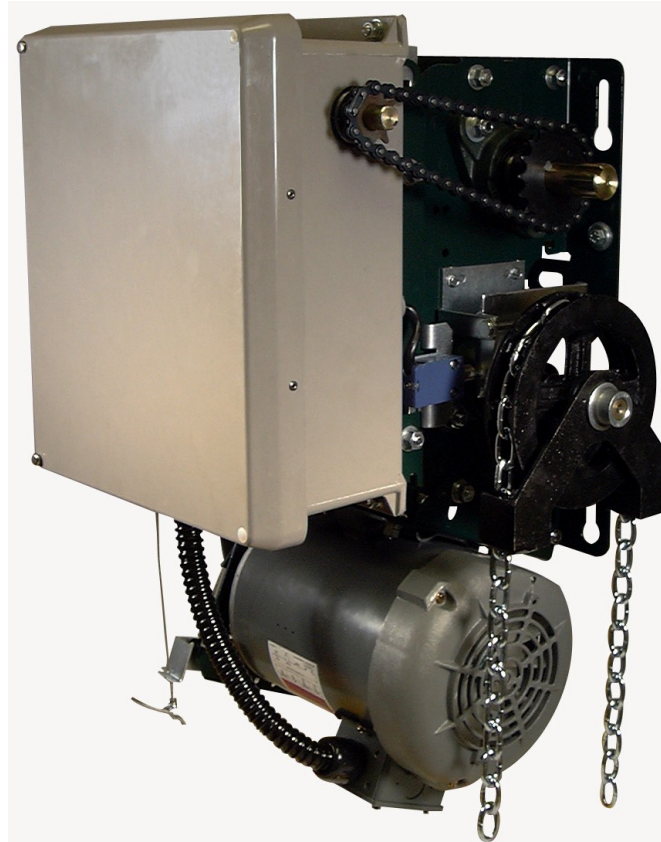


# Addendum – Environmental Applications



## Opera-SH (OSHW & OSHC)

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

Waterproof or Corrosion proof 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.

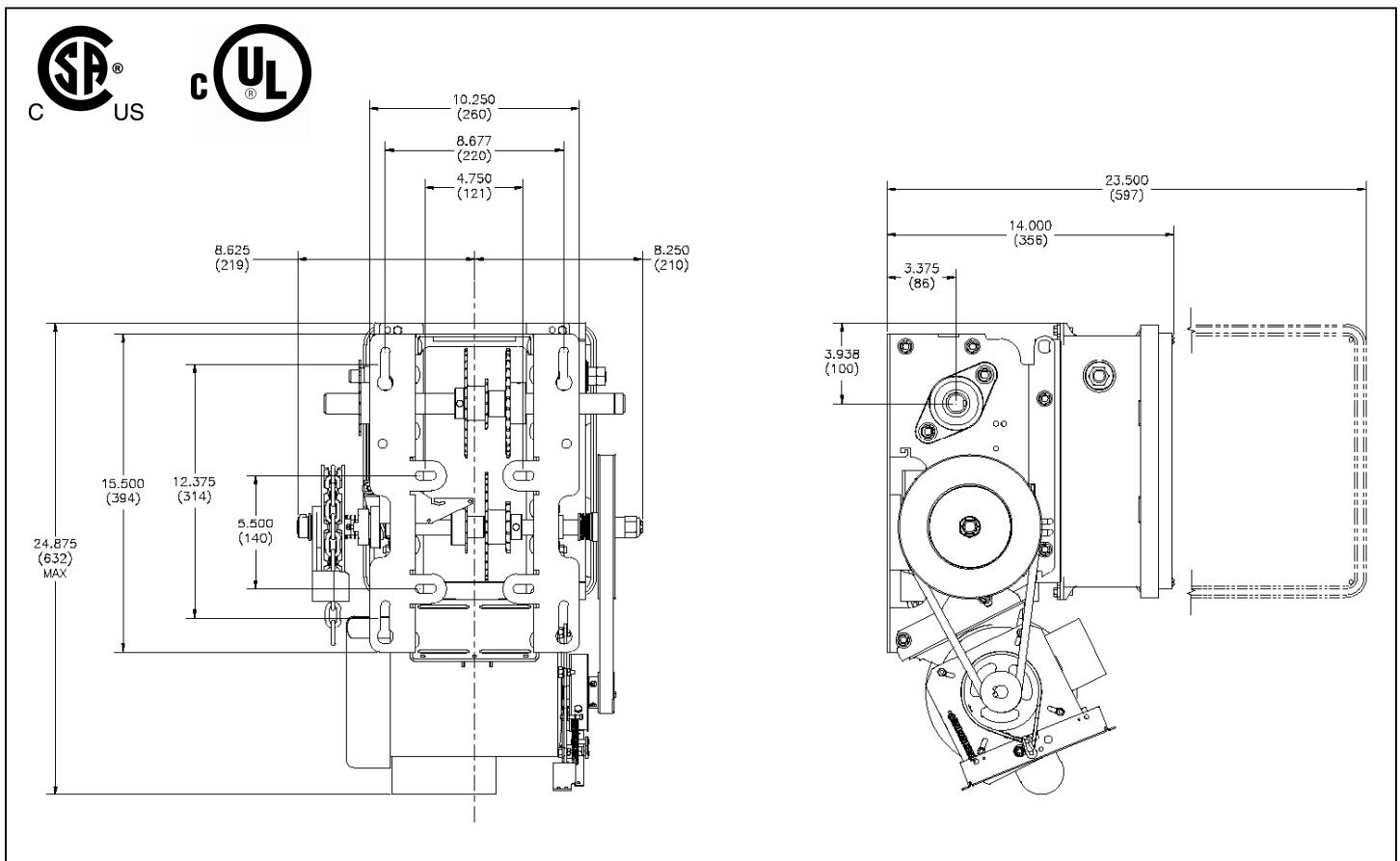
For a general information, refer to Installation and Instruction Manual supplied with the operator.



## 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 1/2, 3/4, 1 Horsepower
OPERATOR OUTPUT SPEED.....	41 RPM
NET WEIGHT (Operator only).....	135 Lbs (61.4 Kg) for 1/2HP 115V - OSHW model
STANDARD WIRING TYPE.....	C2-momentary contact to open and stop and constant pressure to close

DIMENSIONS  
(OSHW)

**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.

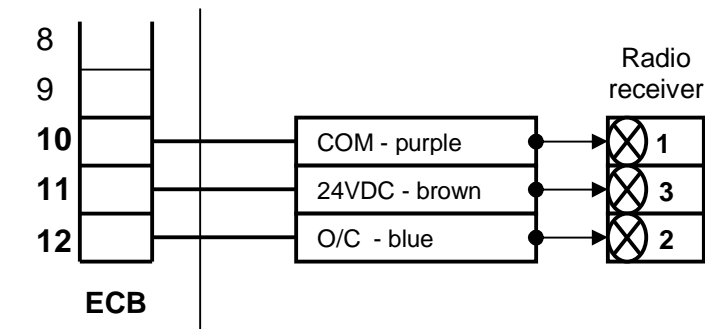
**NOTE:** Use materials as per NEMA guidelines and always follow manufactures instructions for conduit preparation.

**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)

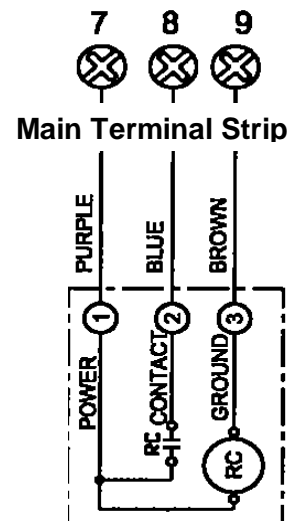
**HARDWIRED OPERATOR**

## Connection Instructions

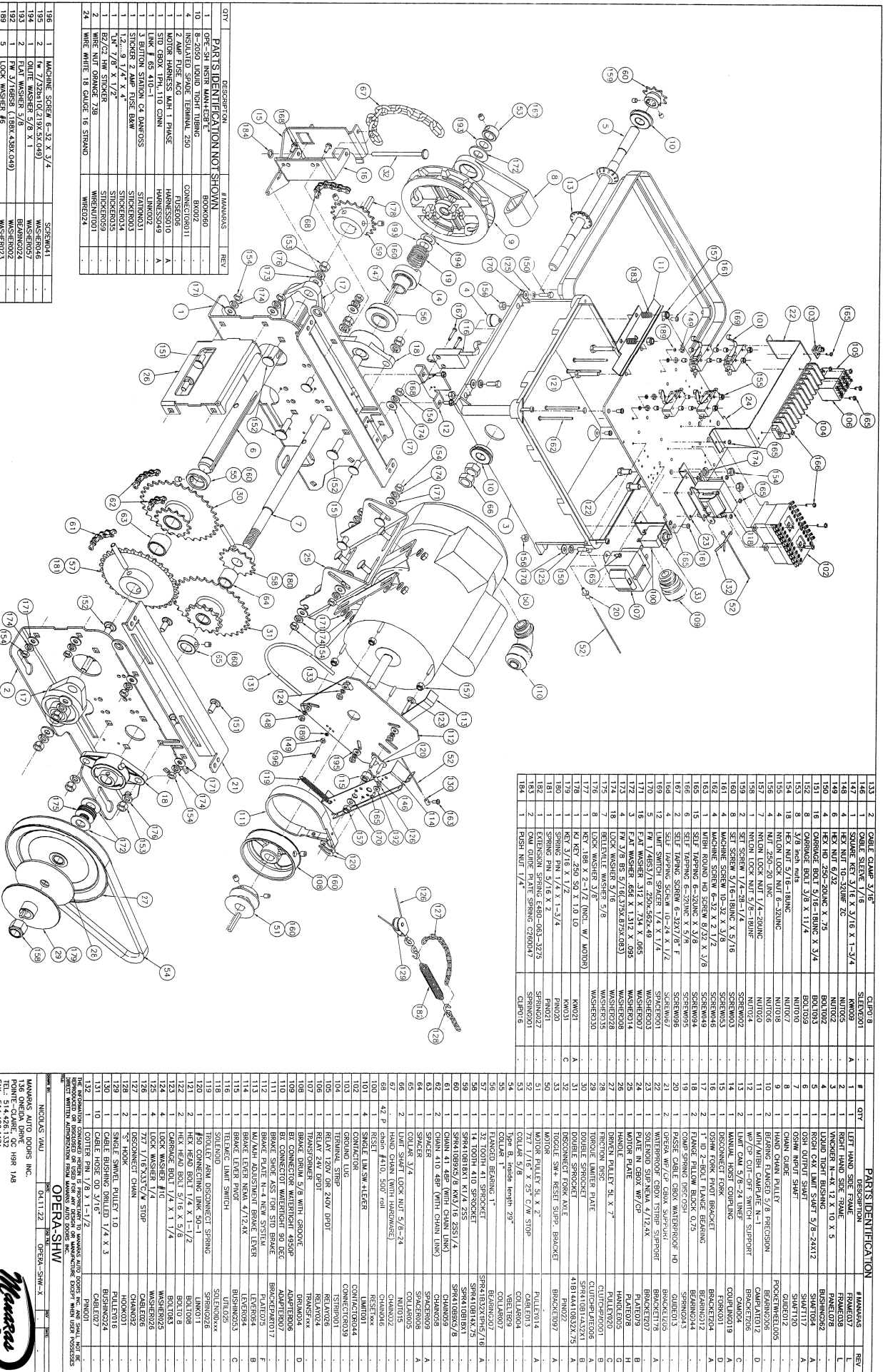
From Terminal Strip	To Radio Receiver
# 7 (COM)	#1 (24 VOLTS)
#8 (O/C)	#2 (RELAY)
#9 (24 V)	#3 (COM OR GROUND)

**IMPORTANT NOTE:**

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



Opera-SH (NEMA4/12)



QTY	DESCRIPTION	#	REVISION
1	133 2	CABLE CLAMP 3/16"	
1	147 1	SQUARE KEY 3/16 X 3/16 X 1-3/4	
1	148 4	HEX NUT 1/2-20UNC 20	
1	150 4	HEX HD 250-20UNC X .725	
1	151 16	OVERARGE BOLT 5/16-18ING X 3/4	
1	152 8	OVERARGE BOLT 3/8 X 1 1/4	
1	153 8	3/8 inch nuts - 18ING	
1	155 4	MINION LOCK NUT 5-20UNC	
1	156 4	NUT 250-20 UNC	
1	157 7	MINION LOCK NUT 1/4-20UNC	
1	158 1	MINION LOCK NUT 5/8-18UNC	
1	160 8	SET SCREW 10-32 X 3/8	
1	161 4	MACHINE SCREW 10-32 X 3/8	
1	162 4	MACHINE SCREW 6-32 X 2 1/2	
1	163 1	WIRE ROUND HD SCREW 8/32 X 3/8	
1	164 1	SELF TAPPING SCREW 10-24 X 1/2	
1	165 2	SELF TAPPING SCREW 6-32X7/8" F	
1	166 4	SELF TAPPING SCREW 10-24 X 1/2	
1	167 2	SELF TAPPING SCREW 6-32X7/8" F	
1	168 2	SELF TAPPING SCREW 10-24 X 1/2	
1	169 2	SELF TAPPING SCREW 10-24 X 1/2	
1	170 2	FLAT WASHER 4/16 X 1 1/2 X 1/4	
1	171 2	FLAT WASHER 4/16 X 1 1/2 X 1/4	
1	172 3	FAT WASHER 4/16 X 1 1/2 X 1/4	
1	173 4	FLAT WASHER 4/16 X 1 1/2 X 1/4	
1	174 18	LOCK WASHER 5/16	
1	175 2	BELENVILLE WASHER 5/8	
1	176 1	KEY .188 X 2-1/2 (INCL. W/ MOTOR)	
1	177 1	KEY .188 X 2-1/2 (INCL. W/ MOTOR)	
1	178 1	KEY 3/16 X 1 1/2	
1	180 1	SPRING PIN 1/4 X 1-3/4	
1	181 1	SPRING PIN 1/4 X 1-3/4	
1	182 1	COIL SPRING E80-683-3275	
1	183 2	CAM QUINZ PAIR SPRING C360042	
1	184 1	PUSH NUT 1/4"	

QTY	DESCRIPTION	#	REVISION
1	133 2	CABLE CLAMP 3/16"	
1	147 1	SQUARE KEY 3/16 X 3/16 X 1-3/4	
1	148 4	HEX NUT 1/2-20UNC 20	
1	150 4	HEX HD 250-20UNC X .725	
1	151 16	OVERARGE BOLT 5/16-18ING X 3/4	
1	152 8	OVERARGE BOLT 3/8 X 1 1/4	
1	153 8	3/8 inch nuts - 18ING	
1	155 4	MINION LOCK NUT 5-20UNC	
1	156 4	NUT 250-20 UNC	
1	157 7	MINION LOCK NUT 1/4-20UNC	
1	158 1	MINION LOCK NUT 5/8-18UNC	
1	160 8	SET SCREW 10-32 X 3/8	
1	161 4	MACHINE SCREW 10-32 X 3/8	
1	162 4	MACHINE SCREW 6-32 X 2 1/2	
1	163 1	WIRE ROUND HD SCREW 8/32 X 3/8	
1	164 1	SELF TAPPING SCREW 10-24 X 1/2	
1	165 2	SELF TAPPING SCREW 6-32X7/8" F	
1	166 4	SELF TAPPING SCREW 10-24 X 1/2	
1	167 2	SELF TAPPING SCREW 6-32X7/8" F	
1	168 2	SELF TAPPING SCREW 10-24 X 1/2	
1	169 2	SELF TAPPING SCREW 10-24 X 1/2	
1	170 2	FLAT WASHER 4/16 X 1 1/2 X 1/4	
1	171 2	FLAT WASHER 4/16 X 1 1/2 X 1/4	
1	172 3	FAT WASHER 4/16 X 1 1/2 X 1/4	
1	173 4	FLAT WASHER 4/16 X 1 1/2 X 1/4	
1	174 18	LOCK WASHER 5/16	
1	175 2	BELENVILLE WASHER 5/8	
1	176 1	KEY .188 X 2-1/2 (INCL. W/ MOTOR)	
1	177 1	KEY .188 X 2-1/2 (INCL. W/ MOTOR)	
1	178 1	KEY 3/16 X 1 1/2	
1	180 1	SPRING PIN 1/4 X 1-3/4	
1	181 1	SPRING PIN 1/4 X 1-3/4	
1	182 1	COIL SPRING E80-683-3275	
1	183 2	CAM QUINZ PAIR SPRING C360042	
1	184 1	PUSH NUT 1/4"	

QTY	DESCRIPTION	#	REVISION
1	133 2	CABLE CLAMP 3/16"	
1	147 1	SQUARE KEY 3/16 X 3/16 X 1-3/4	
1	148 4	HEX NUT 1/2-20UNC 20	
1	150 4	HEX HD 250-20UNC X .725	
1	151 16	OVERARGE BOLT 5/16-18ING X 3/4	
1	152 8	OVERARGE BOLT 3/8 X 1 1/4	
1	153 8	3/8 inch nuts - 18ING	
1	155 4	MINION LOCK NUT 5-20UNC	
1	156 4	NUT 250-20 UNC	
1	157 7	MINION LOCK NUT 1/4-20UNC	
1	158 1	MINION LOCK NUT 5/8-18UNC	
1	160 8	SET SCREW 10-32 X 3/8	
1	161 4	MACHINE SCREW 10-32 X 3/8	
1	162 4	MACHINE SCREW 6-32 X 2 1/2	
1	163 1	WIRE ROUND HD SCREW 8/32 X 3/8	
1	164 1	SELF TAPPING SCREW 10-24 X 1/2	
1	165 2	SELF TAPPING SCREW 6-32X7/8" F	
1	166 4	SELF TAPPING SCREW 10-24 X 1/2	
1	167 2	SELF TAPPING SCREW 6-32X7/8" F	
1	168 2	SELF TAPPING SCREW 10-24 X 1/2	
1	169 2	SELF TAPPING SCREW 10-24 X 1/2	
1	170 2	FLAT WASHER 4/16 X 1 1/2 X 1/4	
1	171 2	FLAT WASHER 4/16 X 1 1/2 X 1/4	
1	172 3	FAT WASHER 4/16 X 1 1/2 X 1/4	
1	173 4	FLAT WASHER 4/16 X 1 1/2 X 1/4	
1	174 18	LOCK WASHER 5/16	
1	175 2	BELENVILLE WASHER 5/8	
1	176 1	KEY .188 X 2-1/2 (INCL. W/ MOTOR)	
1	177 1	KEY .188 X 2-1/2 (INCL. W/ MOTOR)	
1	178 1	KEY 3/16 X 1 1/2	
1	180 1	SPRING PIN 1/4 X 1-3/4	
1	181 1	SPRING PIN 1/4 X 1-3/4	
1	182 1	COIL SPRING E80-683-3275	
1	183 2	CAM QUINZ PAIR SPRING C360042	
1	184 1	PUSH NUT 1/4"	

OPERASH-W  
 OPERASH-W  
 OPERASH-W



MANNARS AUTO HOORS INC.  
 198 HURON ST.  
 ANN ARBOR MI 48106  
 TEL: 514.428.1132  
 FAX: 514.428.1171

QTY	DESCRIPTION	#	REVISION
1	186 1	MACHINE SCREW 6-32 X 3/4	
1	187 2	FLAT WASHER 5/8 X 1 1/4	
1	188 2	FLAT WASHER 5/8 X 1 1/4	
1	189 5	LOCK WASHER 5/8	

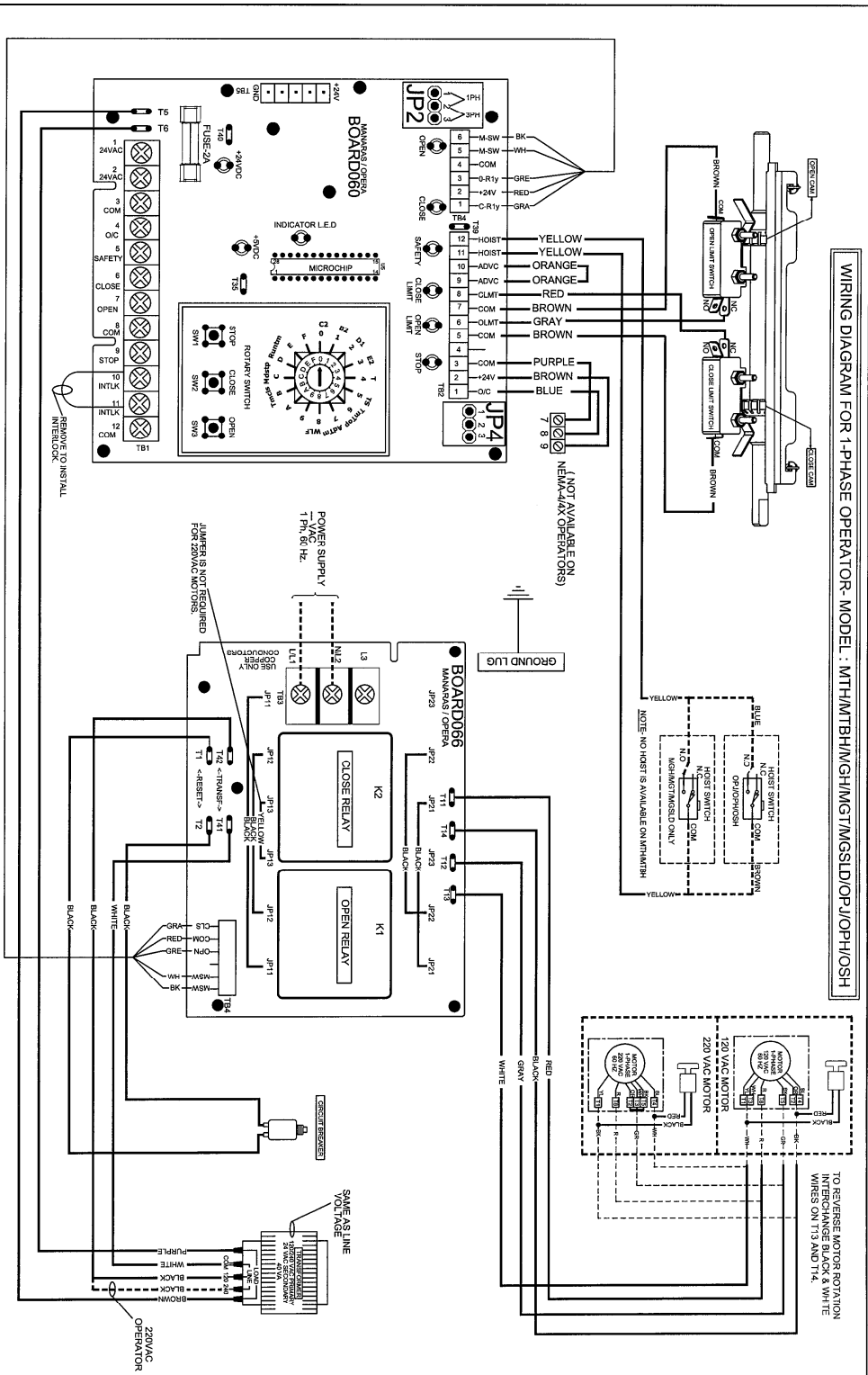
QTY	DESCRIPTION	#	REVISION
1	186 1	MACHINE SCREW 6-32 X 3/4	
1	187 2	FLAT WASHER 5/8 X 1 1/4	
1	188 2	FLAT WASHER 5/8 X 1 1/4	
1	189 5	LOCK WASHER 5/8	

QTY	DESCRIPTION	#	REVISION
1	186 1	MACHINE SCREW 6-32 X 3/4	
1	187 2	FLAT WASHER 5/8 X 1 1/4	
1	188 2	FLAT WASHER 5/8 X 1 1/4	
1	189 5	LOCK WASHER 5/8	

QTY	DESCRIPTION	#	REVISION
1	186 1	MACHINE SCREW 6-32 X 3/4	
1	187 2	FLAT WASHER 5/8 X 1 1/4	
1	188 2	FLAT WASHER 5/8 X 1 1/4	
1	189 5	LOCK WASHER 5/8	

QTY	DESCRIPTION	#	REVISION
1	186 1	MACHINE SCREW 6-32 X 3/4	
1	187 2	FLAT WASHER 5/8 X 1 1/4	
1	188 2	FLAT WASHER 5/8 X 1 1/4	
1	189 5	LOCK WASHER 5/8	

# Single phase ECB wiring diagram



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

## EXTERNAL WIRING

LINE POWER	24 VAC POWER	EXTERNAL INTERLOCK	SAFETY REVERSE	OPEN/CLOSE COMMAND	SINGLE PUSH-BUTTON STATION	TWO PUSH-BUTTON STATION
L1,1 N1,2 1 Ph, 50 Hz	1 2 24 VAC POWER (MOTOR DETECTOR) AVAILABLE 10A MAX	10 11 FACTORY INSTALLED JUMPER REMOVE IF EXTERNAL INTERLOCK IS USED	3 5 CONTACT FOR SAFETY REVERSE/SAFETY DEVICE	3 4 CONTACT FOR OPEN/CLOSE DEVICE	9 8 7 6 NOTE: PLACE A JUMPER BETWEEN TERMINALS 9 AND 8. IF STOP BUTTON IS NOT USED	8 7 6 5 4 3 2 1 P.B. SH1 P.B. SH2

For connection of Radio Receiver, refer to page 3

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

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

MANARS/OPERA 9140-0720 QUEBEC INC.

DATE: 13.FEB.2007

REV: A

1386 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 WIRING	B TIMER TO CLOSE
4 T WIRING	C MID-STOP
5 TS WIRING	D RUN TIMER

### ON BOARD JUMPER SETTINGS

JP2	JP4
1, 2, 3	DISCONNECT
4, 5	PRESENT
1, 2	NOT PRESENT
2, 3	

WARNING LIGHT/RECEIVER MODULE

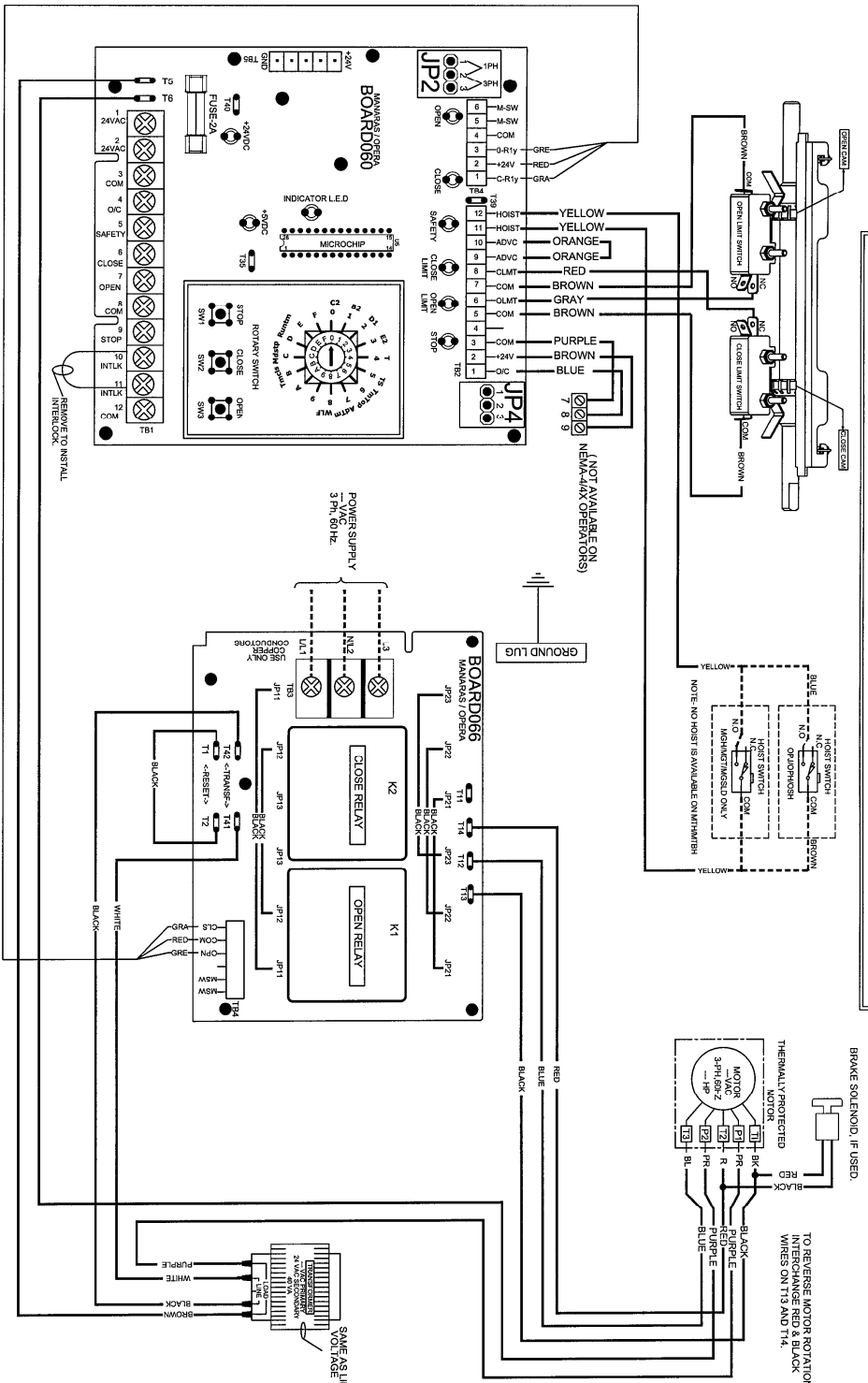
CONNECTION FOR WARNING LIGHT AND RECEIVER MODULE. (CONSULT FACTORY)

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/MGSLD/OP/PH/OSH



### EXTERNAL WIRING

LINE POWER	24 VAC POWER	EXTERNAL INTERLOCK	SAFETY REVERSE	OPEN/CLOSE COMMAND	SINGLE PUSH-BUTTON STATION	TWO PUSH-BUTTON STATION
L1, L2, L3 3 Ph, 60 Hz POWER SUPPLY MOTION DETECTOR AVAILABLE TOTAL MAX	1, 2 24 VAC POWER FACTORY INSTALLED JUMPER REMOVE IF EXT. INTERLOCK IS USED.	10, 11 SAFETY INTERLOCK CONTACT FOR SAFETY REVERSE/SAFETY DEVICE	3, 4 OPEN/CLOSE COMMAND CONTACT FOR OPEN/CLOSE DEVICE	5, 6, 7, 8 SINGLE PUSH-BUTTON STATION NOTE: PLUG A JUMPER BETWEEN TERMINALS 6 AND 9. IF STOP BUTTON IS NOT USED.	9, 10, 11, 12 TWO PUSH-BUTTON STATION P.B. #1, P.B. #2	For connection of Radio Receiver, refer to page 3

### 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 E2 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	JP4 (DISCONNECT)	1, 2, 3
208/480/575 VAC	2, 3	SAFETY SWITCH	PRESENT / NOT PRESENT
			1, 2 / 2, 3

### WARNING LIGHT/RECEIVER MODULE

24V	TBS	CONNECTION FOR WARNING LIGHT AND RECEIVER MODULE (CONSULT FACTORY)
208/480/575 VAC	1, 2, 3	

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

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.

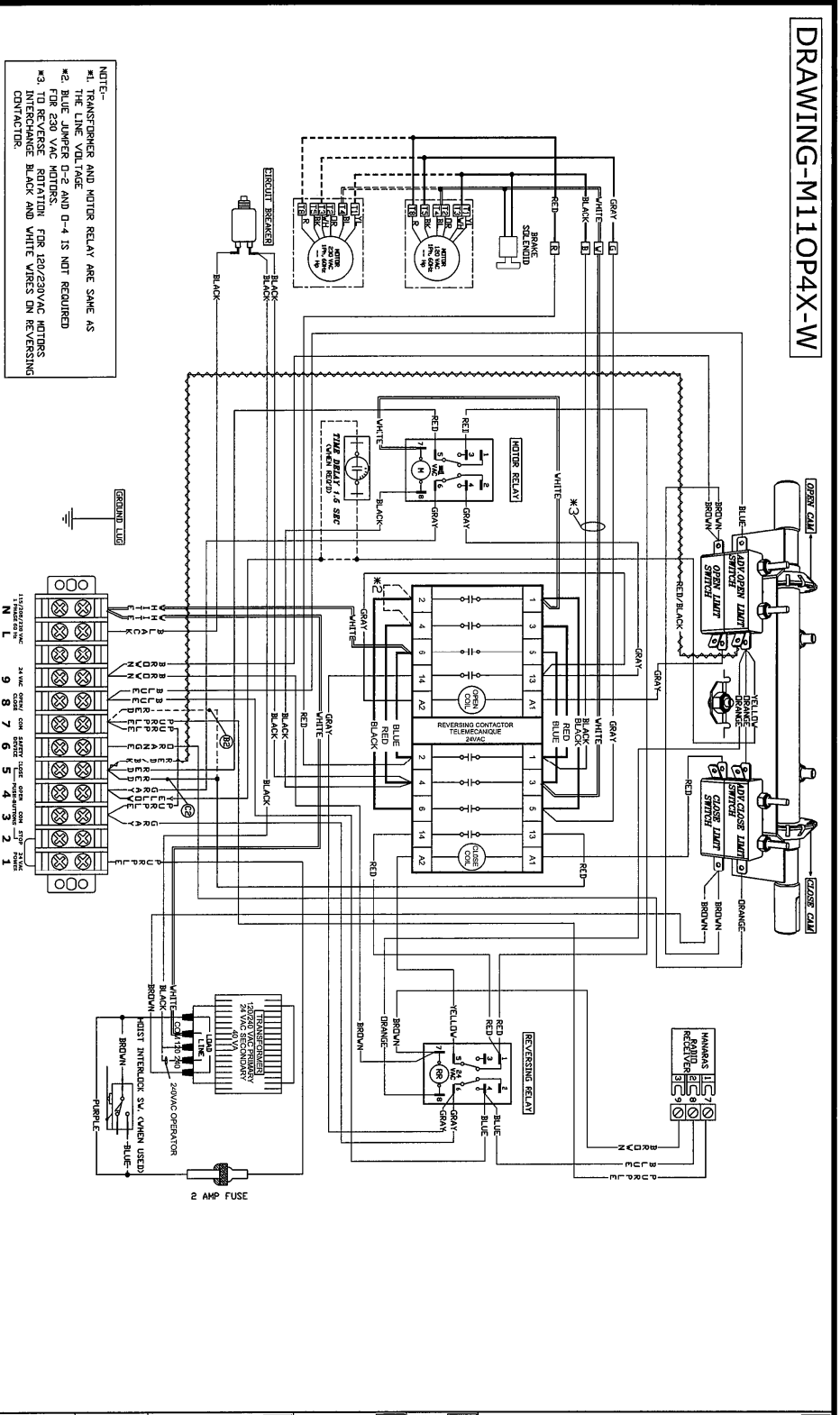
TITLE: WIRING DIAGRAM, 208/480/575VAC, 3- PHASE (Nema-4)

DRAWN BY: BP DATE: 15 NOV 2008 CAD FILE: BRB-11-14 REV DATE: A 13 FEB 2007

MANARAS/OPERA 9140-0720 QUEBEC INC.  
 136 ONEDA DRIVE  
 P.O. BOX 148  
 TEL: 1-800-381-2280  
 FAX: 1-508-525-0008

# Hardwired single-phase wiring diagram

## DRAWING-M11OP4X-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 RELAY FOR 230/230VAC MOTORS INTERLOCK RED AND WHITE WIRES ON REVERSING CONTACTOR.

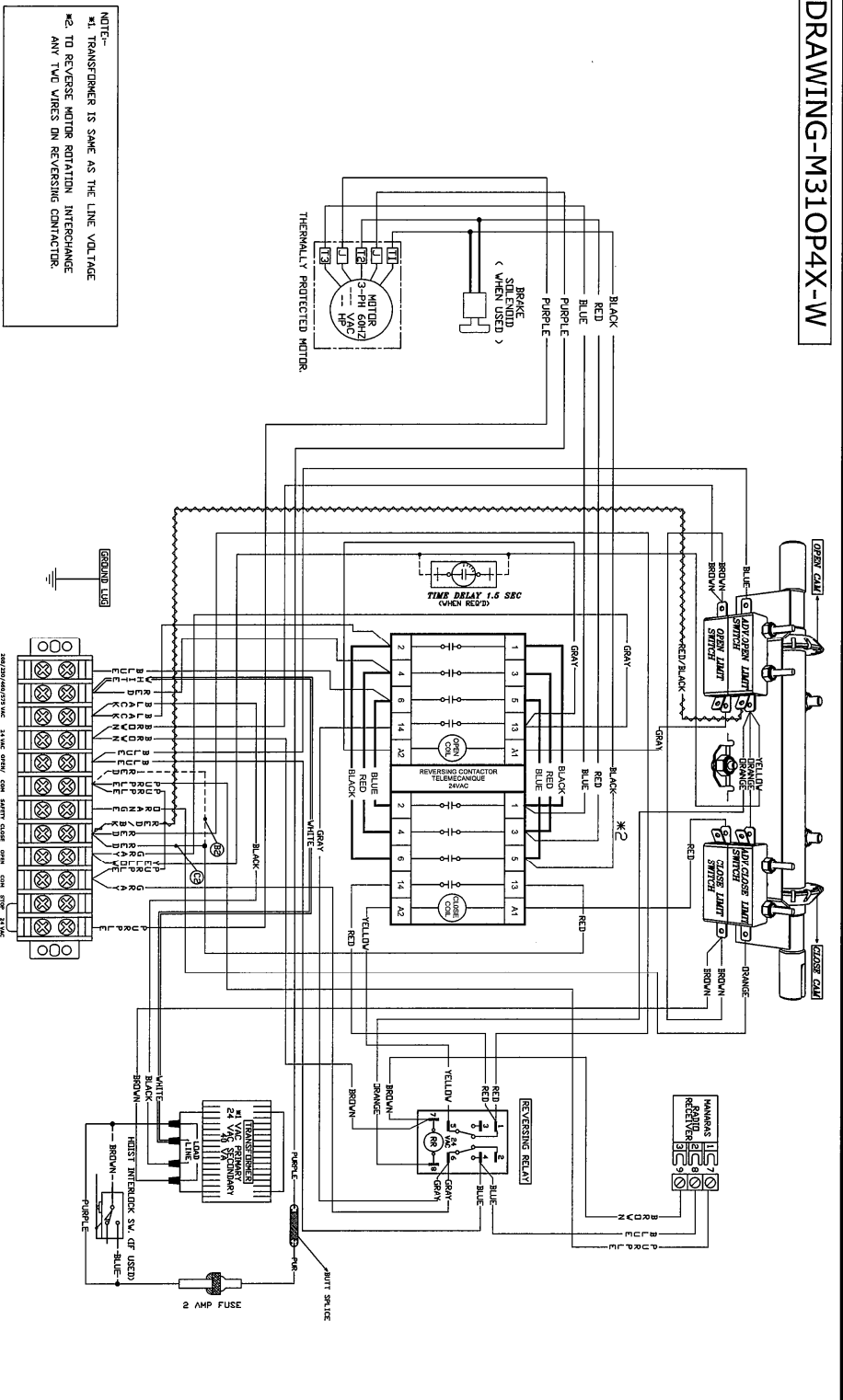
LINE POWER	POWER 24 VAC	EXTERNAL INTERLOCK	SAFETY REVERSE	OPEN/CLOSE COMMAND	3-POSITION KEY SW. W/SPRING RETURN TO CENTER	PUSH-BUTTON STATION SINGLE	PUSH-BUTTON STATION TWO	RADIO RECEIVER
L1 L1 N1 2	1 9	1 2	3 6	7 8	5 4 3	5 4 3 2 1	5 4 3 2	For connection of Radio Receiver, refer to page 3
POWER SUPPLY 170/230 VAC	24 VAC POWER AVAILABLE 18VAWAC	REMOVE TERMINAL INTERLOCK	CONTACT FOR SAFETY SERVICE	CONTACT FOR OPEN/CLOSE DOOR DEVICE	KEY-SWITCH	CAUTION PLACE A JUMPER BETWEEN TERMINAL #2 AND #3 IF STOP BUTTON IS NOT USED		

- 1 ON SITE MODIFICATIONS**
- NOTE (C2)/B2  
 C2 ⇨ B2  
 B2 ⇨ C2
- 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.
- WARNING:**  
 MOTORIZED DOORS CAN CAUSE SERIOUS INJURIES OR DEATH. MANARAS STRONGLY RECOMMENDS THE USE OF ENTRAPMENT PROTECTION SYSTEMS SPECIALLY DESIGNED FOR THIS APPLICATION TO PREVENT INJURY 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(RR) AND CAP IT.
- 4 ADDING A TIME DELAY ON REVERSE  
 ADV. OPEN L.S. DANGER  
 1. REMOVE THE YELLOW WIRE FROM ADV. OPEN LIMIT SWITCH, CONNECT THIS WIRE TO TERMINAL #1 ON T.D. MODULE.  
 2. FROM OTHER END OF THE TIME DELAY SWITCH, CONNECT BACK TO ADV. OPEN L.S. TERMINAL #1.
- 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, ADV. STOP, WIRING, LONG DISTANCE MODULE, OR ANY OTHER OPTION, PLEASE CONSULT MANARAS AT 1-800-861-2860/1-866-77-6732(USA)
- WIRING DIAGRAM FOR OSH/OPH/OPI-4/4X 120/230 VAC, 1 PHASE MOTORS**
- TITLE: M11OP4X-W  
 PROJECT: 19. Apr. 2005  
 CLIENT: BE  
 ENGINEER: RY  
 DISTRIBUTOR: BE  
 M.P.D. BY: MANARAS AUTO DOORS INC.



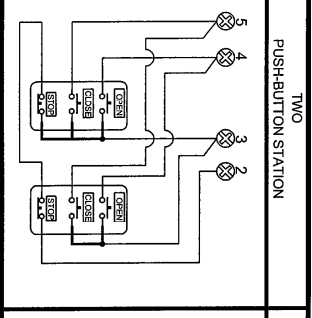
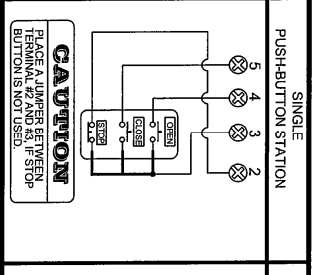
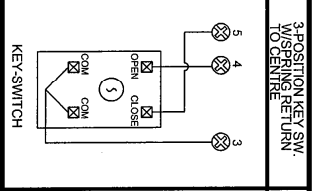
# Hardwired 3-phase wiring diagram

## DRAWING-M31OP4X-W



NOTE:  
 #1 TRANSFORMER IS SAME AS THE LINE VOLTAGE  
 #2 TO REVERSE MOTOR ROTATION INTERCHANGE  
 ANY TWO WIRES ON REVERSING CONTACTOR

LINE POWER	POWER 24 VAC	EXTERNAL INTERLOCK	SAFETY REVERSE	OPEN/CLOSE COMMAND
L1 L2 L3	1 9	1 2	3 6	7 8
POWER SUPPLY 208/240/480/575 VAC 3 PH 3 W	24 VAC POWER AVAILABLE FROM MAX	REMOVE INTERLOCK	CONTACT FOR SAFETY REVERSE	CONTACT FOR OPEN/CLOSE COMMAND



RADIO RECEIVER  
 For connection of Radio Receiver, refer to page 3

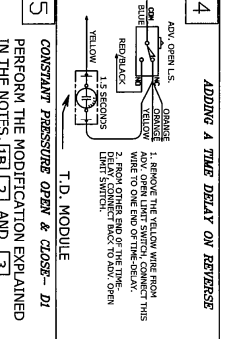
TITLE	208/480/575 VAC, 3 PHASE MOTORS
PROJECT	M31OP4X-W
CLIENT	
ENGINEER	
DRAWN	
DATE	
19 APR 2005	
DISTRIB	
MANUFACTURED BY	MANARAS AUTO DOORS INC.



- ON SITE MODIFICATIONS
- REMOVE THE RED WIRE WITH RAPID CONNECTOR FROM TERMINAL #5, AND TRANSFER IT TO TERMINAL #7.
- 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.

- REMOVE THE GRAY WIRE FROM TERMINAL #3 AND PLACE IT ON TERMINAL #4
- 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 CN # 4 OR REVERSING RELAY(R) AND CN #11.
- ADDING A TIME DELAY ON REVERSE



NOTE:  
 C2 ↔ B2  
 B2 ↔ C2

FOR ANY OTHER OPTIONS LINE, TIMER TO CLOSE, AND STOP TIMER, CONTACTING DISTANCE MODULE, AND STOP OPTION, CONTACTING DISTANCE MODULE, PLEASE CONSULT MANARAS AT 1-800-561-2880/1-866-77-8792(USA).

WIRING DIAGRAM FOR OSH/OPR/4AX