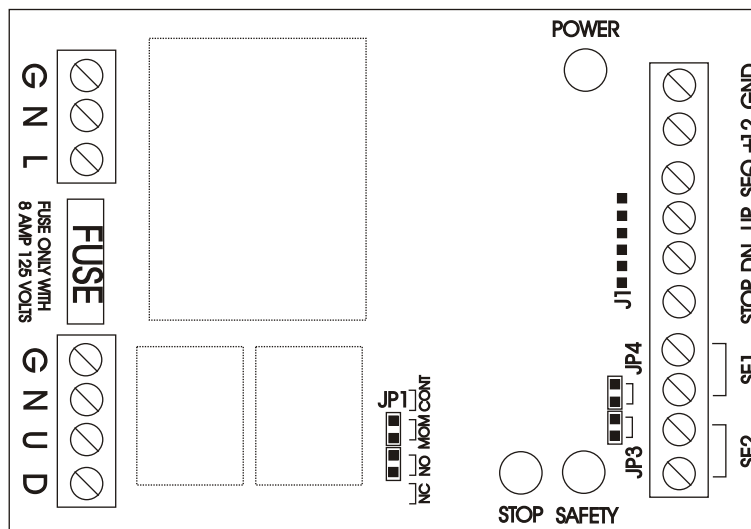


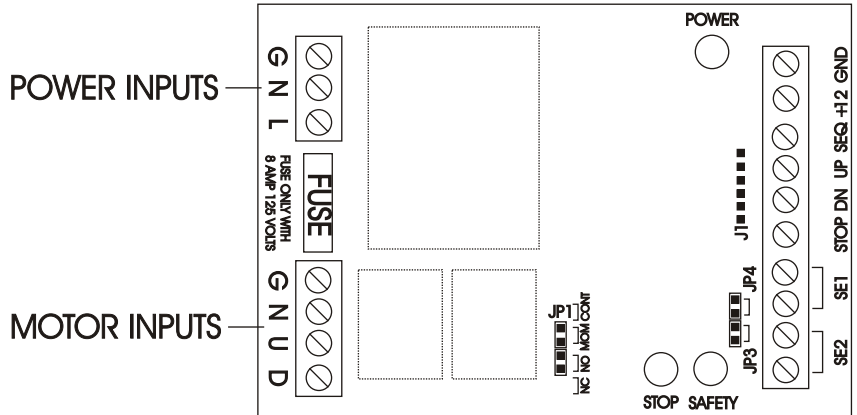
# NEW SMC SMART MOTOR CONTROL



The “Smart Motor Control” (SMC) is an ideal general purpose intelligent control system for commercial or industrial applications. The SMC allows control of a 120VAC tube motor by most standard commercial controls and safety detectors.

## FEATURES

- Mounts in standard 3 gang electrical box
- 250 mA 12 volt supply for accessories
- Diagnostic LEDs for quick, easy trouble shooting
- Supports normally open and close inputs from reversing detectors
- Supports 2 and 4 wire safety edges
- The stop button is selectable - normally open or normally close
- Control is selectable - timed run or continuous pressure
- Sequencing input supports single contact devices such as:
  - Radio Controls, Key Switches, Card Readers



## HIGH VOLTAGE CONNECTIONS

**POWER INPUTS:** G - GROUND  
N - 120 VAC NEUTRAL  
L - 120VAC HOT

**MOTOR INPUTS:** G - MOTOR GROUND (GREEN)  
N - MOTOR NEUTRAL (WHITE)  
U - MOTOR UP (BLACK\*)  
D - MOTOR DOWN (RED\*)

\*IF MOTOR RUNS IN WRONG DIRECTION, REVERSE THE RED AND BLACK MOTOR WIRES

## JUMPERS

### RUN TIME JUMPER JP1 (TOP)



JUMPER ON (MOM)

WITH THE JUMPER ON, THE RUN TIMER IS OFF AND THE SMC WILL DRIVE THE MOTOR ONLY AS LONG AS THE UP OR DOWN BUTTON IS PRESSED

NOTES:

- 1) THE REVERSING DETECTOR CONTROLS ARE DEACTIVATED IN THIS MODE.
- 2) THE SEQUENCING CONTROL IS DEACTIVATED IN THIS MODE.
- 3) THIS MODE CAN BE USED TO CLOSE THE DOOR IF THERE IS A MALFUNCTION IN THE REVERSING DETECTORS. THIS MUST ONLY BE DONE IF THE UP/DOWN SWITCH IS IN DIRECT VIEW OF THE DOOR. THE REVERSING DETECTORS MUST BE SERVICED AS SOON AS POSSIBLE AND THE DOOR RETURNED TO ITS NORMAL OPERATING MODE.



JUMPER OFF (CONT)

WITH THE JUMPER OFF, THE RUN TIMER IS ACTIVE AND THE SMC WILL DRIVE THE MOTOR FOR 1 MINUTE (OR TO THE MOTOR LIMIT) WHEN THE UP OR DOWN BUTTON IS PRESSED. PRESSING THE OTHER DIRECTION WHEN THE MOTOR IS RUNNING WILL CAUSE THE MOTOR TO STOP FOR 1/4 SECOND BEFORE REVERSING DIRECTIONS.

NOTES:

- 1) THE SMC MUST BE IN THIS MODE FOR THE SEQUENCING AND REVERSING DETECTORS TO BE ACTIVE.

**STOP SELECT JUMPER JP1 (BOTTOM)**



**JUMPER ON (N.O.)**

WITH THE JUMPER ON, THE STOP BUTTON IS SELECTED NORMALLY OPEN (N.O.). A CLOSED STOP CONTACT WILL STOP THE MOTOR AND LIGHT THE YELLOW STOP LED.

NOTES:

1) THE JUMPER MUST BE IN THIS POSITION IF A STOP SWITCH IS NOT USED OR IF THE STOP BUTTON IS N.O.



**JUMPER OFF (N.C.)**

WITH THE JUMPER OFF, THE STOP BUTTON IS SELECTED NORMALLY CLOSE (N.C.). A OPEN STOP CONTACT WILL STOP THE MOTOR AND LIGHT THE YELLOW STOP LED

NOTES:

1) THE JUMPER MUST BE IN THIS POSITION IF A N.C. STOP SWITCH IS USED. LEAVING THE JUMPER ON WITHOUT A N.C. STOP BUTTON ATTACHED WILL CAUSE THE SMC TO NOT OPERATE.

**REVERSING DETECTOR JUMPERS (JP3 JP4)**



**JUMPERS OFF (4 WIRE EDGE)**

BOTH JUMPERS JP3 AND JP4 MUST BE OFF TO USE A 4 WIRE SENSING EDGE.

NOTES:

1) IF EITHER JUMPER IS OFF WITHOUT A 4 WIRE SENSING EDGE ATTACHED, THE RED SAFETY LED WILL LIGHT AND THE DOOR WILL BE LOCKED IN THE UP DIRECTION.



**JUMPERS ON (2 WIRE EDGE OR N.O. DETECTOR)**

BOTH JUMPERS JP3 AND JP4 SHOULD BE ON IF A NORMALLY OPEN REVERSING SENSOR IS USED OR IF NO REVERSING SENSOR IS USED.

NOTES:

1) IT IS STRONGLY RECOMMENDED THAT A REVERSING SENSOR BE USED IF THE SMC RUN TIMER IS ON.



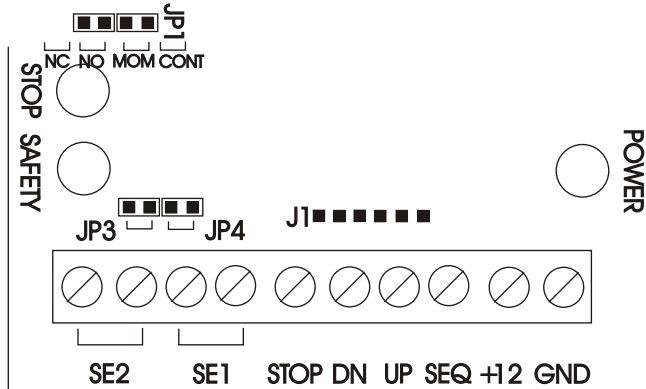
**1 JUMPER ON, 1 JUMPER OFF (N.C. DETECTOR)**

WITH JUMPER JP3 ON AND JP4 OFF A NORMALLY CLOSE REVERSING SENSOR CAN BE CONNECTED TO SE1.

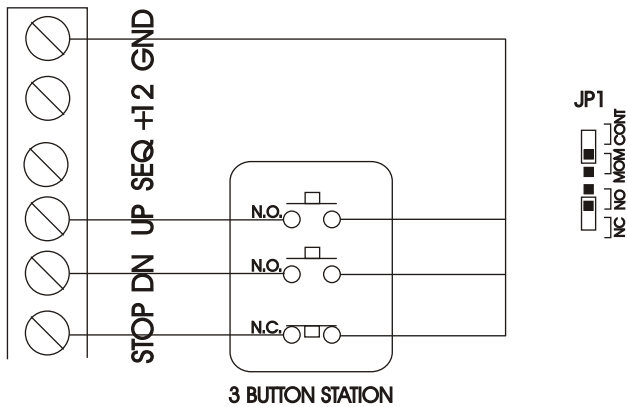
NOTES:

1) WITH JP4 OFF A NORMALLY CLOSE CONTACT MUST BE CONNECTED TO SE1 OR THE SMC WILL LOCK THE DOOR OPEN.

# LOW VOLTAGE SWITCHING CONNECTIONS

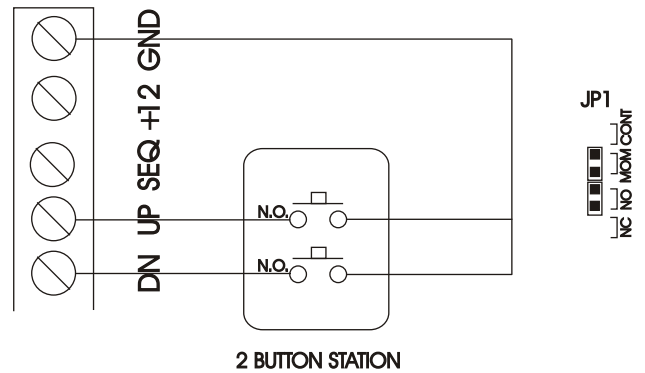


## 3 BUTTON STATION



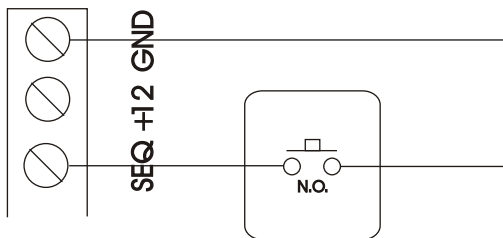
- NOTES:
- 1) SHOULD BE USED WITH REVERSING SENSORS
  - 2) SHOWN CONFIGURED FOR A N.C. STOP BUTTON

## 2 BUTTON STATION



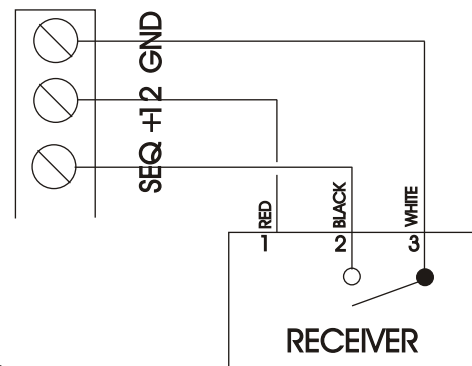
- NOTES:
- 1) SHOWN REQUIRING CONSTANT PRESSURE ON THE SWITCH FOR THE MOTOR TO OPERATE.
  - 2) SWITCH MUST BE IN VIEW OF THE DOOR

## SEQUENCING CONTROL



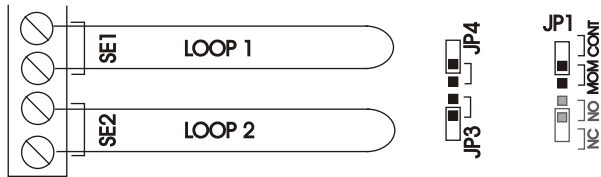
- NOTES:
- 1) CAN BE USED WITH ANY MOMENTARY, DRY CONTACT SUCH AS KEY SWITCHES, CARD READERS, RADIO CONTROLS, ETC..
  - 2) TWO OR MORE SWITCHES CAN BE WIRED IN PARALLEL.
  - 3) CONTROL WILL FOLLOW A SEQUENCE WITH EACH PULSE (UP, STOP, DOWN, STOP, UP, .....

## SINGLE CHANNEL RADIO



- NOTES:
- 1) WIRING SHOWN IS STANDARD BUT MAY VARY WITH MANUFACTURER. CHECK INSTRUCTIONS WITH RADIO RECEIVER FOR DIFFERENCES BEFORE WIRING.

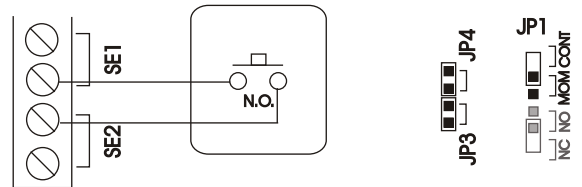
4 WIRE SENSING EDGE



NOTES:

- 1) JUMPERS JP3 AND JP4 MUST BE OFF WHEN USING A 4 WIRE SENSING EDGE.
- 2) JP1 TOP JUMPER MUST BE OFF (CONT). THIS SETS THE SMC RUN TIMER ON.
- 3) JP1 LOWER JUMPER SETTING DEPENDS ON STOP BUTTON.
- 4) CHECK SENSING EDGE FUNCTION. IF THE MOTOR REVERSES UPON SENSING EDGE ACTIVATION WHEN THE DOOR IS GOING UP INSTEAD OF DOWN, REVERSE THE RED AND BLACK MOTOR LEADS.

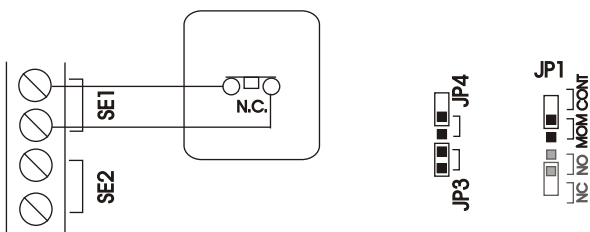
N.O. SENSING EDGE (2 WIRE)



NOTES:

- 1) JUMPERS JP3 AND JP4 MUST BE ON WHEN USING A NORMALLY OPEN SENSING (2 WIRE) EDGE.
- 2) JP1 TOP JUMPER MUST BE OFF (CONT). THIS SETS THE SMC RUN TIMER ON.
- 3) JP1 LOWER JUMPER SETTING DEPENDS ON THE STOP BUTTON.
- 4) CHECK SENSING EDGE FUNCTION. IF THE MOTOR REVERSES UPON SENSING EDGE ACTIVATION WHEN THE DOOR IS GOING UP INSTEAD OF DOWN, REVERSE THE RED AND BLACK MOTOR LEADS.

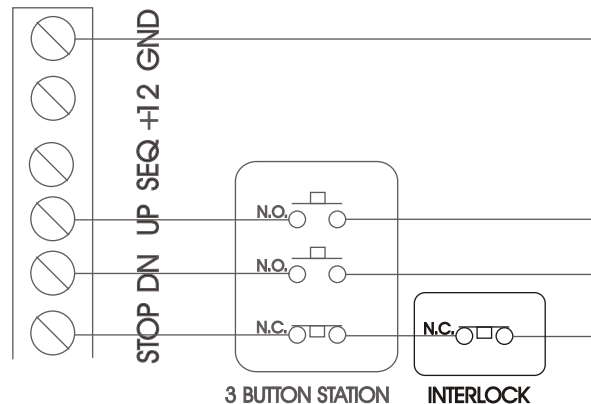
N.C. REVERSING SENSOR



NOTES:

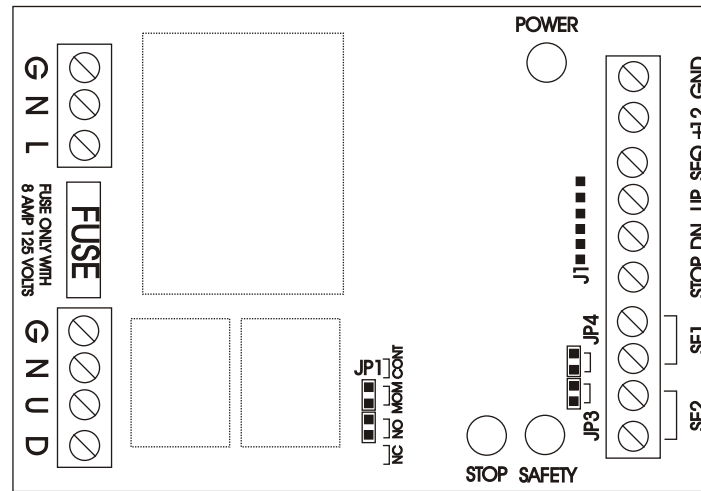
- 1) JUMPER JP3 MUST BE ON AND JP4 MUST BE OFF WHEN USING NORMALLY CLOSE REVERSING SENSOR.
- 2) JP1 TOP JUMPER MUST BE OFF (CONT). THIS SETS THE SMC RUN TIMER ON.
- 3) JP1 LOWER JUMPER SETTING DEPENDS ON STOP BUTTON.
- 4) CHECK SENSING EDGE FUNCTION. IF THE MOTOR REVERSES UPON SENSING EDGE ACTIVATION WHEN THE DOOR IS GOING UP INSTEAD OF DOWN, REVERSE THE RED AND BLACK MOTOR LEADS.

INTERLOCK (KEYED LOCK OUT)



NOTES:

- 1) A NORMALLY CLOSED INTERLOCK (KEYED LOCK OUT) CAN BE CONNECTED IN SERIES WITH THE N.C. STOP BUTTON.
- 2) SHOULD BE USED WITH REVERSING SENSORS
- 3) SHOWN CONFIGURED FOR A N.C. STOP BUTTON.



## ELECTRICAL RATINGS

INPUT POWER: 120V AC 60Hz

MOTOR OUTPUT MAXIMUM: 8AMPS

FUSED: 8AMP 125V

LOW VOLTAGE SUPPLY FOR OFF BOARD CONTROLS: 12VDC @250mA

## DIAGNOSTIC LED'S

GREEN POWER LED ON - POWER AND FUSE CONNECTIONS ARE GOOD

YELLOW STOP LED ON - ACTIVE STOP SIGNAL (CONTROL IS LOCKED)

RED SAFETY LED ON - ACTIVE REVERSING DETECTOR SIGNAL. (CONTROL WILL LOCK DOOR IN OPEN DIRECTION)

## TROUBLE SHOOTING

### PROBLEM - NO RESPONSE FROM CONTROL

- 1) IF THE GREEN POWER LED IS NOT ON: CONFIRM THAT THERE IS 120VAC ON THE POWER INPUT AND THAT THE CONNECTIONS ARE CORRECT.  
CHECK THE FUSE.
- 2) IF THE GREEN POWER AND YELLOW STOP LED'S ARE ON: CHECK THAT THE STOP JUMPER IS CONFIGURED CORRECTLY.  
CHECK CONNECTIONS TO THE STOP BUTTON.
- 3) IF THE GREEN POWER LED IS ON AND THE YELLOW STOP AND RED SAFETY LED'S ARE OFF: CHECK THE CONNECTIONS TO THE MOTOR.  
TEST THE MOTOR DIRECTLY WITH A TEST SWITCH.  
CHECK THE MOTOR LIMITS (TURN BOTH LIMITS PLUS 5 REVOLUTIONS).

### PROBLEM - MOTOR LOCKED IN ONE DIRECTION

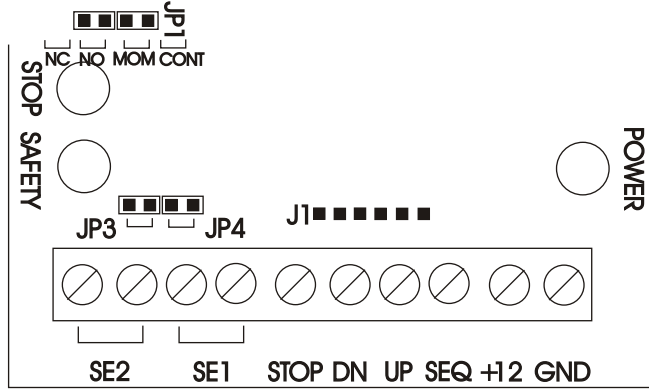
- 1) IF THE RED SAFETY LED IS ON: CHECK THE CONNECTIONS TO THE REVERSING DETECTORS.  
CONFIRM THAT THE JUMPERS JP3 AND JP4 ARE CONFIGURED CORRECTLY.
- 2) IF THE RED SAFETY LED IS NOT ON: CHECK THE CONNECTIONS TO THE MOTOR.  
CHECK THE MOTOR LIMIT (TURN IT PLUS 5 REVOLUTIONS).  
TEST THE MOTOR DIRECTLY WITH A TEST SWITCH.

### PROBLEM - MOTOR RUNS ONLY AS LONG AS SWITCH IS HELD DOWN

THIS IS CORRECT OPERATION IF REVERSING DETECTORS ARE NOT USED. IF REVERSING DETECTORS ARE USED, CHECK THE POSITION OF THE RUN TIME JUMPER (JP1 TOP).



# APPENDIX 1



## RC 201 RECIVER

