

# C.J. ANDERSON & CO | Dial Indicator Wiring Instructions

## GENERAL

There are two different ways of installing the enclosure and dial indicator which depend on which model/style casting you've chosen. The most popular includes installing the enclosure in the front wall and snapping the cover plate into the enclosure using concealed fasteners. The other option is installing the enclosure and electronics in the hoistway and having the arrow shaft protrude through the wall. This is used when you've purchased an electronics only package and are reusing the floor markings on the wall or casting.

The 180 or 360 degree position indicator from C.J. Anderson provides a classic historic original look using state of the art digital electronic technology. The modular design and reliable digital electronics provide dependable trouble free performance.

The 180 or 360 PI indicates the elevator position in the hoistway by moving a arrow in an arc across a face plate with characters or numerals indicating the various floor positions. The 180 or 360 PI interfaces to the elevator controller via a MCCU Microcom serial communications link, not included. A typical MCCU Board requires 120 VAC 15A power in addition to the interface to the elevator controller. A three wire serial link is connected between the MCCU unit to each PI. This allows all of the 180 or 360 PI's to operate with only three wires in the hoistway. Please note that your controller may already have this interface built into it which would not require that you add this board.

## INSTALLATION PROCEDURE / WIRING

After installing enclosure for dial indicator in wall and connecting three wires to motor drive board connect your MCCU driver board (not included and can be purchased separately, in the machine room, connect the MCCU interface to the Elevator controller per the predetermined configuration (Binary, Grey code, SLPF, Inverted Binary). Refer to the MCCU wiring diagram for terminal connections. Do not connect power at this time. You may already have outputs for the CE Electronics driver interface already designed into your controller. These would be labeled CE1,CE2,CE3.

Attach three 18 AWG wires to connector J-3 pins 1, 2, and 3. Pull the three wires to each PI location and connect to connector J-3 on the motor controller. Insure that Pin 1 is connected to Pin 1, etc. and the wires run parallel to each PI throughout the system. Mount the faceplate to the wall box via the concealed fasteners.

## POWER UP

Before attaching the arrow to the shaft, turn power on to the system. The motors will rotate the arrow shafts to a preset stop on the motor bracket. The shafts will continue to pulse after the stop is reached. The unit may exhibit noise or vibration during this sequence, which is normal. This power up sequence will take approximately one minute. Once the system has completed power up install the arrows on the shafts to indicate the current position of the car on the faceplate. Send the car to various floors and verify the correct placement of the arrow.

The motor controller switch settings are PRESET at the factory to operate according to information provided on the approved fixture drawing. The settings are recorded along with the job number on the back of the faceplate or mounting box attached to the motor.

### Speed Dip Switches (S3)

The speed of the arrow is preset at the factory with S3. In the event the speed of the arrow requires adjustment contact CJA for assistance.

### Operational Dip Switches (S2)

The operational dip switches are preset at the factory. Normal settings are all off.

### DIP1 Test Switch

0 is for NORMAL OPERATION  
1 is for TEST MODE (Use to set arrow speed)

### DIP2 Floor Layout indication.

0 allows the arrow to move CLOCKWISE as the elevator rises.  
1 allows the arrow to move COUNTER CLOCKWISE as the elevator rises.

### DIP3 Zero Scan Slot

0 is the Factory default setting  
**DO NOT CHANGE.**  
1 is for special applications.

### DIP4 Homing Speed

0 is for slow.  
1 is for fast.

### DIP5 - Auto Home on Power up

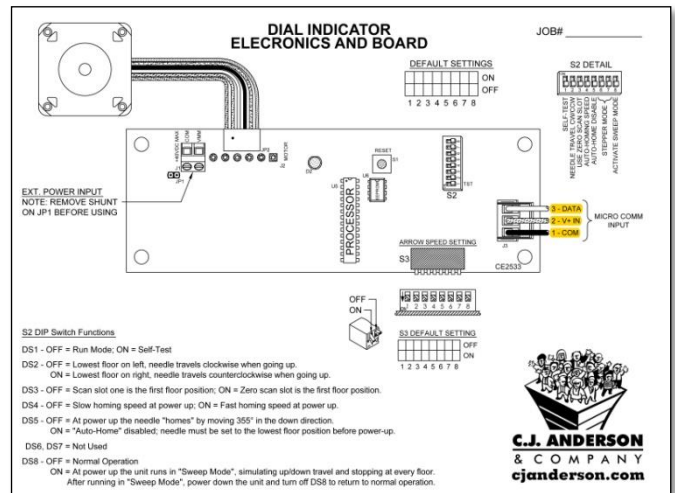
0 is for Auto Homing on power up. The system "Homes" the arrow by moving 355 degrees in the down direction. This insures that the arrow will self align in the event of a power failure.

1 is for "No home" The arrow must be preset prior to power up and reset after power loss.

### DIP6 Not Used

DIP7 Not Used

DIP8 Not Used

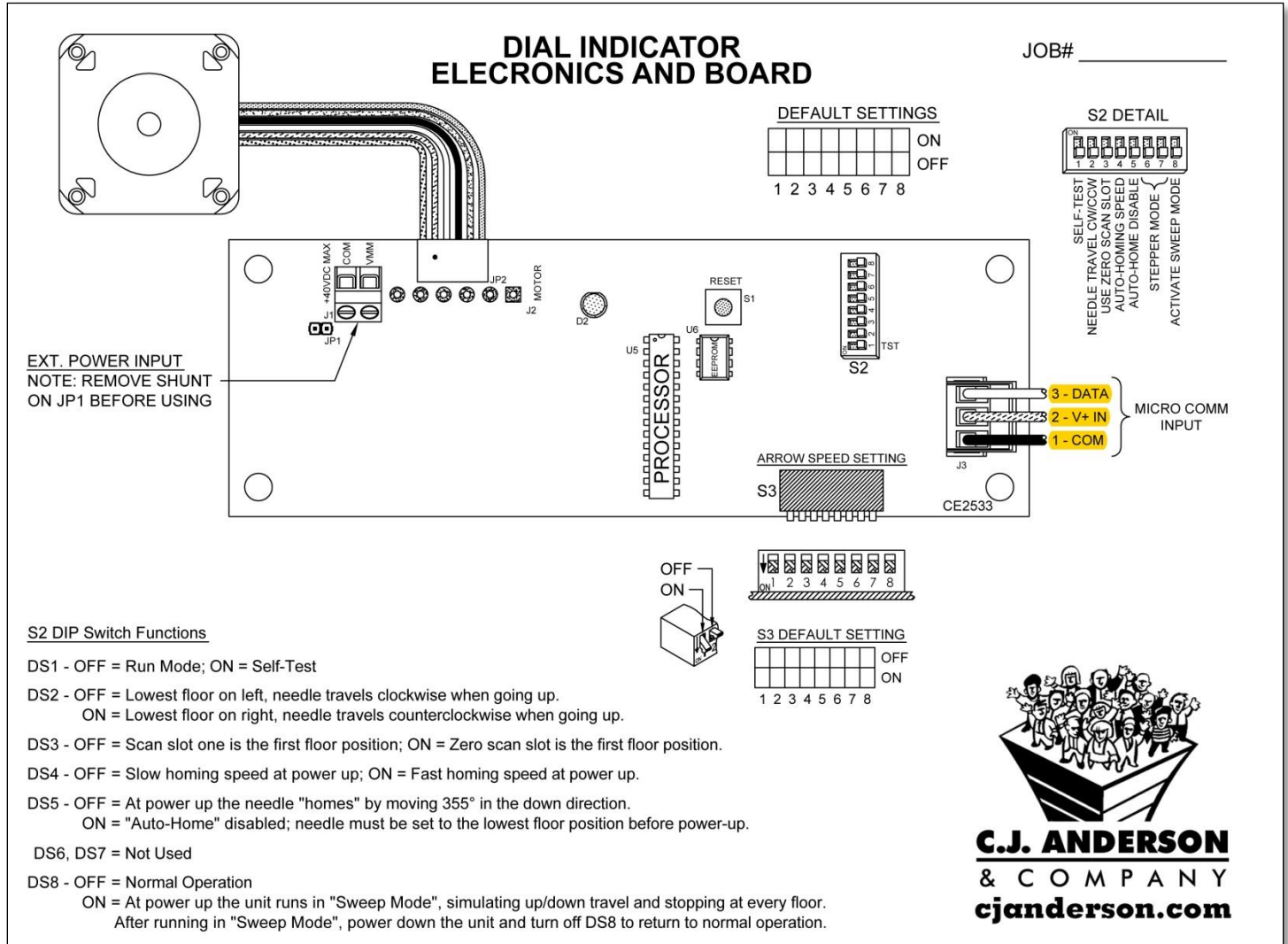


## IMPORTANT WARNING

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Each dial indicator drives an arrow using a stepper motor. This sequence is not absolute, meaning the board is programmed according to the speed of the elevator and the distance between landings to provide you with an approximate position of the elevator. The arrow will not be completely in sync with the elevator but we have programmed each unit to come as close as possible.



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If you would like your pointer arrow to move faster or slower you can increase/decrease these settings as needed. Please make sure you first note the starting setting so you can go back to it if needed.

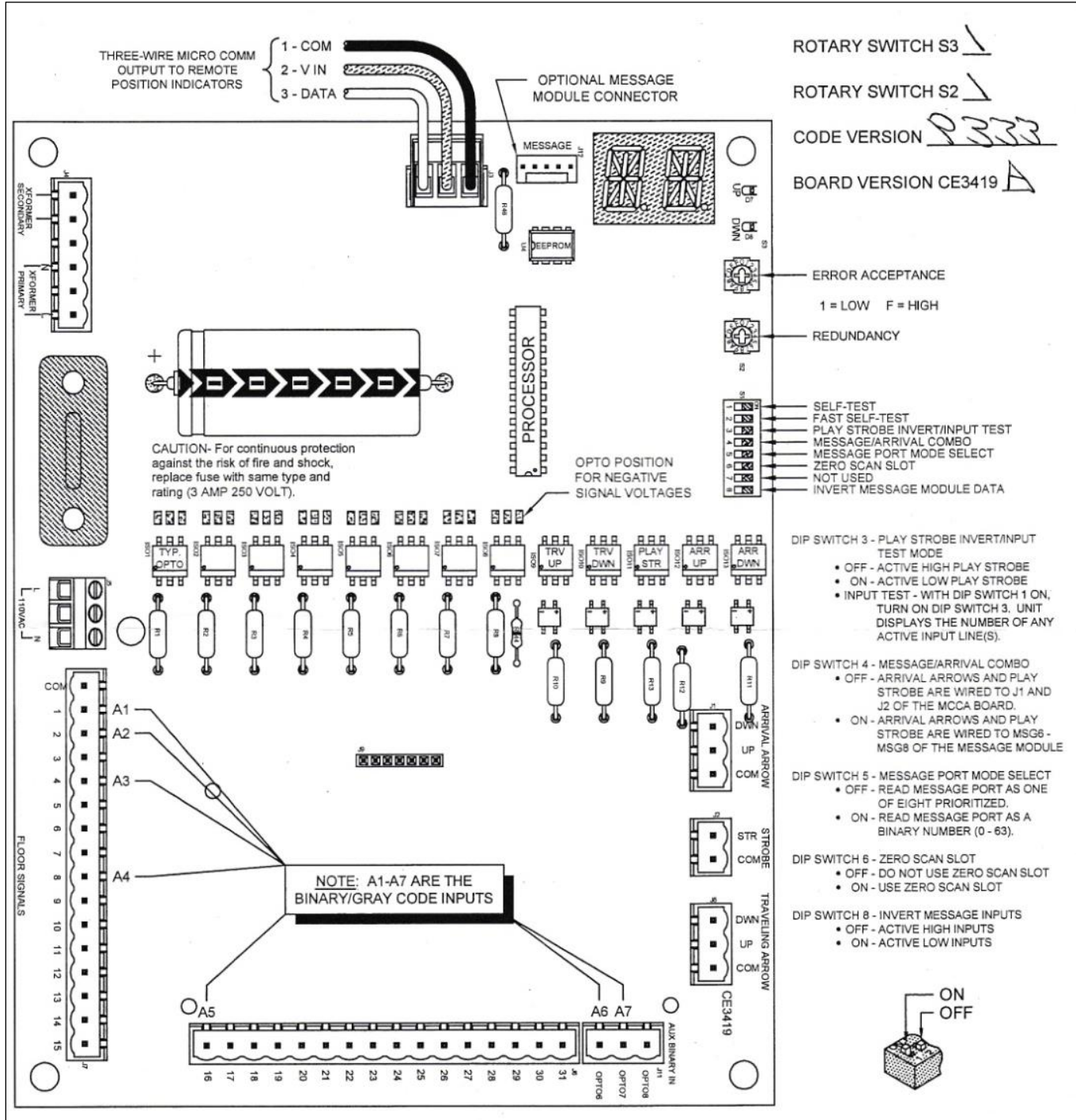
**FACTORY SETTING – 0 = OFF | 1 = ON (MARK EACH BOX BELOW WITH 0 OR 1)**

DS8	DS7	DS6	DS5	DS4	DS3	DS2	DS1

DS8	DS7	DS6	DS5	DS4	DS3	DS2	DS1	SPEED	DS8	DS7	DS6	DS5	DS4	DS3	DS2	DS1	SPEED	DS8	DS7	DS6	DS5	DS4	DS3	DS2	DS1	SPEED	DS8	DS7	DS6	DS5	DS4	DS3	DS2	DS1	SPEED										
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0	0	0	0	0	0	0	1		0	1	0	0	0	0	0	1	1																												

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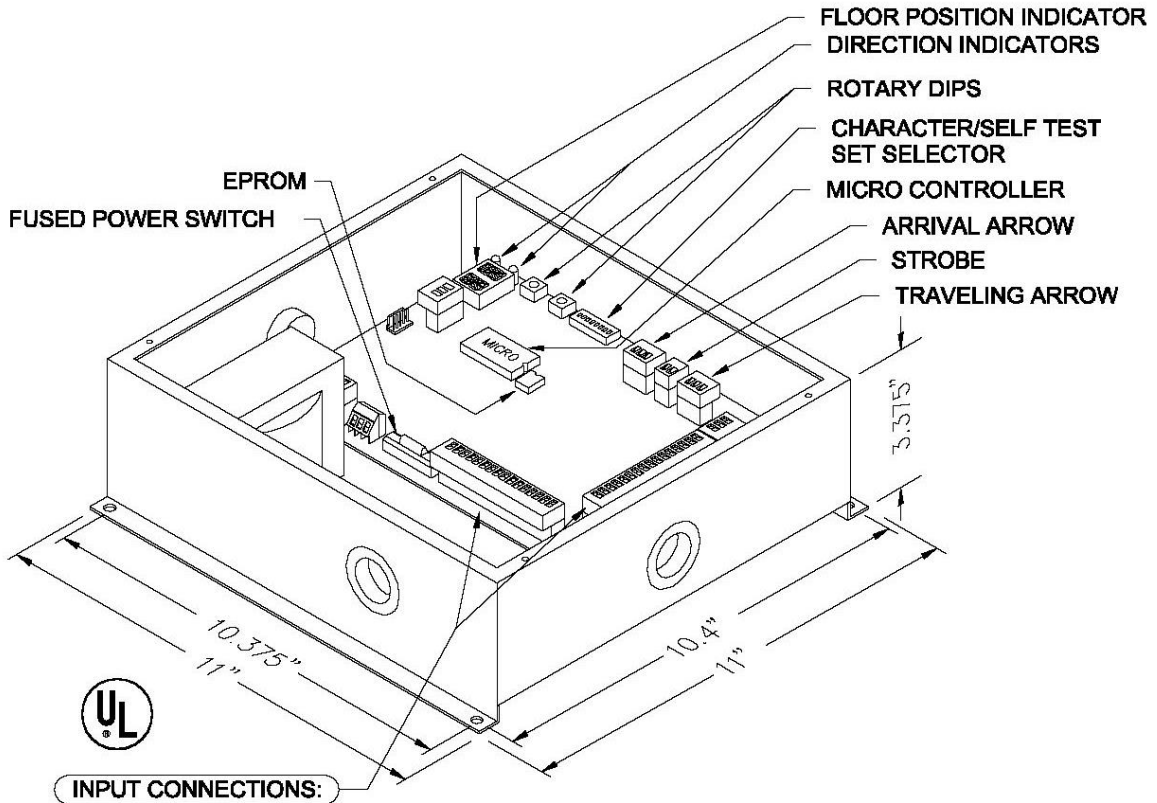
MCCA UNIT – To Drive Dial Indicator (not included with your order) Most new controllers have the connection points for CE1, CE2, CE3 serial link communication. If you do require a driver unit please confirm how you would need it set up. See page 5 for more details.



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INPUT CONNECTIONS:

**TO ORDER: - MCCA - X X X**

NUMBER OF INPUTS:  
 "2" = 15 INPUT  
 "4" = 31 INPUT  
 "5" = 55 INPUT  
 \*"8" = 119 INPUT

SIGNAL VOLTAGE:  
 "A" = POSITIVE 6-20VDC, 6-24VAC  
 "B" = POSITIVE 24-48VDC, 24-48VAC  
 "C" = 120VAC (Use POSITIVE build)  
 "D" = POSITIVE 125VDC  
 "E" = NEGATIVE 6-20VDC  
 "F" = NEGATIVE 24-48VDC  
 "G" = NEGATIVE 125VDC

SIGNAL FORMAT:  
 "1" = SINGLE LINE/FLOOR  
 "2" = BINARY  
 "3" = UNITS & TENS  
 "4" = GRAY CODE  
 "5" = INVERTED BINARY  
 "6" = SPECIAL

Each MCCA Unit will drive both CE Electronics Digital P.I.'s as well as our Dial Indicators using three wires as shown on page 4.

This unit is connected to your elevator controller and can be set up for a variety of voltages as well as Signal Formats. One MCCA unit is required for each elevator controller.

We need both signal voltage and signal format in order to set this unit up for your controller.

To order or obtain pricing on this unit sent your MCCA-XXX part number to [sales@cjanderson.com](mailto:sales@cjanderson.com)

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