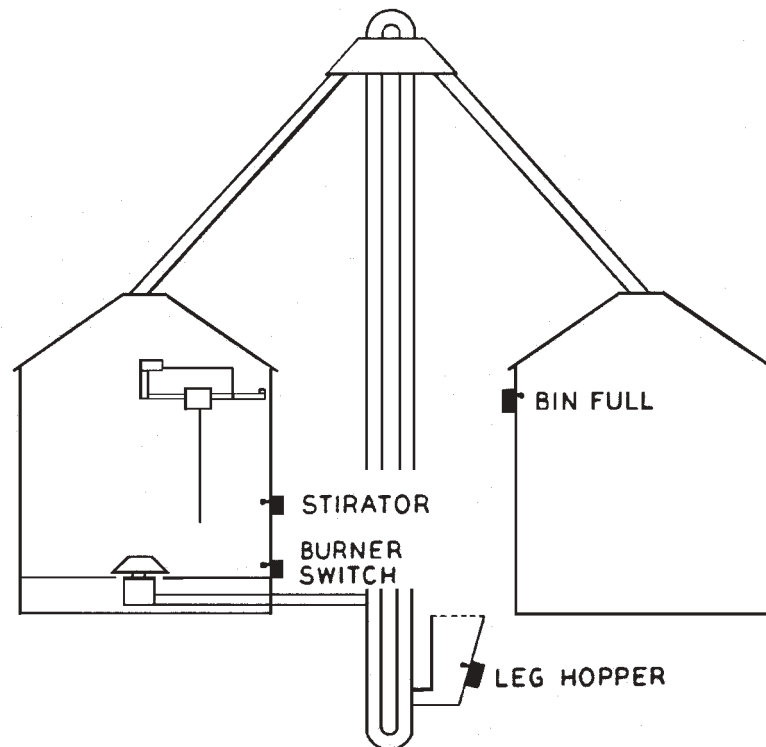


# OWNER'S MANUAL

# DMC

## LEVEL MONITOR III



**DAVID MANUFACTURING CO.**

1600 12th Street N.E., Mason City, Iowa USA 50401

641-424-7010

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## **WARRANTY for Level Monitor III**

The guarantee is for one year from date of installation to be free of defects in material or workmanship when properly installed and operated in accordance with instructions in this booklet. Warranted parts will be exchanged F.O.B. Mason City, Iowa without charge to the user. Damage resulting from negligence voids the warranty. Warranty does not include labor, installation or delivery of replacement parts.

Electric motors are covered by the warranties of the respective manufacturers. Electric service centers are located in all regions. Consult your dealer.

The Warranty and liability of David Manufacturing Company, its distributors, dealers and agents is limited to replacement, without charge, of defective parts, as outlined above. DMC makes no other warranties, express or implied except as stated herein, and disclaims all obligations and liabilities other than specified.

The Manufacturer reserves the right to make changes in specifications or prices without incurring obligation on previously produced merchandise.

**!! CAUTION !!**

**WATCH FOR THIS SYMBOL!  
IT POINTS OUT IMPORTANT SAFETY PRECAUTIONS.**

IT MEANS: "ATTENTION --- BECOME ALERT! YOUR SAFETY IS INVOLVED!"

It is recommended that you review the entire contents of this manual, paying special attention to items preceded by this symbol.

**FAILURE TO HEED THESE INSTRUCTIONS  
CAN RESULT IN PERSONAL INJURY!**

**!! WARNING !!**

**FAILURE TO FOLLOW THESE SAFETY INSTRUCTIONS  
MAY RESULT IN EQUIPMENT DAMAGE,  
PERSONAL INJURY OR DEATH!**

1. Disconnect all power before servicing. Have bin properly grounded.  
NOTE: There may be more than one power supply in the Level Monitor III.
2. All wiring should be done according to the local code and the National Electric Code and by a qualified electrician.
3. Ground electrical boxes and equipment for personal safety.
4. Keep all electrical boxes closed while applying power.
5. Read and understand the owner's manual.

### **Specifications**

1. 115 Volt 60 HZ input power
2. 5 Amp - 1/8 HP - 120 Volt AC maximum controlled circuit current

### LEVEL MONITOR III OPERATION

The Level Monitor III can be used in many different applications. A capacitive sensor is incorporated with a relay to provide an isolated relay contact output. Common (C), normally open (NO), and normally closed (NC). There is a red indicator light that will be on when the sensor is covered. This can be used to detect if grain is above or below the monitor. The toggle switch can be used to bypass the relay contact outputs. In BYPASS position, both the NO and NC are closed to C. In ON position only the NO and C are closed when the sensor is covered, and only the NC and C are closed when the sensor is not covered.

### FIELD TESTING THE LEVEL MONITOR III

**Have all people clear of operating equipment before the test.**

With the 115 VAC turned on and the monitor switched to ON position and the sensor not covered, the C and NO will be open. Place your hand on the sensor. This will close the C and NO and light the red indicator light. Remove your hand and all will return to normal.

### MONITOR III INSTALLATION

1. Drill a 1-3/4" diameter hole at the location desired. Use the box as a hole guide. Mark and drill 5/16" holes through the plastic box where the bin ribs touch the box. Mark the holes on the bin. Then remove the box and drill through the bin. The nuts must be on the inside of the bin. **See Drawing 1.**
2. Mount the Level Monitor III to the outside of the bin using the two 1/4" x 1-1/4" bolts, lock washers, and nuts. Insure that the neoprene seal is between the Level Monitor box and the bin wall. If the location of the Level Monitor is where a Stir-Ator auger might catch the capacitive sensor, install a guard (part #205C002). **See Drawing 1.**

### A.C. POWER

1. A 115 Volt AC will be hooked to the terminal strip marked (N) and (L1). Connect the ground wire to the bin mounting bolt. **See Drawing 2 wiring diagram and Drawing 3.**
2. A 115 Volt AC is available in the Grain Flow control box on terminal 1 and 2 (take-away auger control).

**Do not use the 115 Volt for the Chart Recorder to power the Level Monitor.**

### ALARM OR SIGNAL HOOK-UP

The relay, which is within the monitor, has contacts rated for 5 amps. Do not hook up any alarm or signal load that exceeds 5 amps. The common (C), normally open (NO), and normally closed (NC) contacts are on the terminal strip. If your alarm or signal load exceeds 5 amps, use a separate contactor, controlled by the C, NO, or NC contacts in the Level Monitor.

### ELECTRICAL HOOKUP: LEVEL MONITOR USED FOR BIN EMPTY WITH THE GRAIN FLOW

(The Level Monitor is located 2 ft. above the drying floor)

Locate Auger Overload Switch terminals #4 and #5 on the terminal strip at the bottom of the Grain Flow control box back panel. Connect the Level Monitor in series with the auger overload by removing the auger overload wire from terminal #5. Use a wire nut to connect a wire from the auger overload switch wire to the "NO" (normally open) terminal in the Level Monitor. Attach one end of another wire to the "C" (common) terminal in the Level Monitor and the other end to terminal #5 in the Grain Flow. Other equipment used to control the Grain Flow should be wired in series with this circuit in a similar way. **See Drawing 4.**

### ELECTRICAL HOOK-UP

#### LEVEL MONITOR TO CONTROL STIR-ATOR ABOVE A GRAIN FLOW

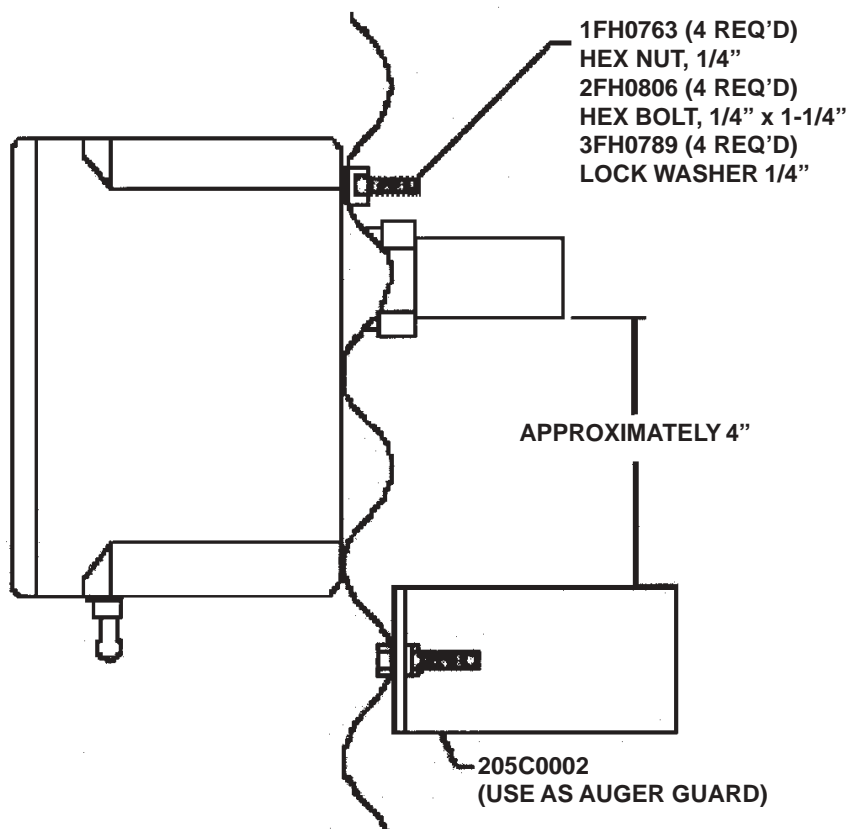
(The Level Monitor is located 6 ft. above the drying floor)

You must have an unused contactor in the Grain Flow control box to use as a power source for the Stir-Ator.

1. Connect the power wires from the Stir-Ator switch box to the unused contactor terminals.
2. Remove the orange wire from the bottom of the third take-away auger switch and insulate. From this switch terminal run a wire to the "C" on the Level Monitor. Put a jumper from the NO to L1 on the terminal strip in the Level Monitor. **See Drawing 5.**

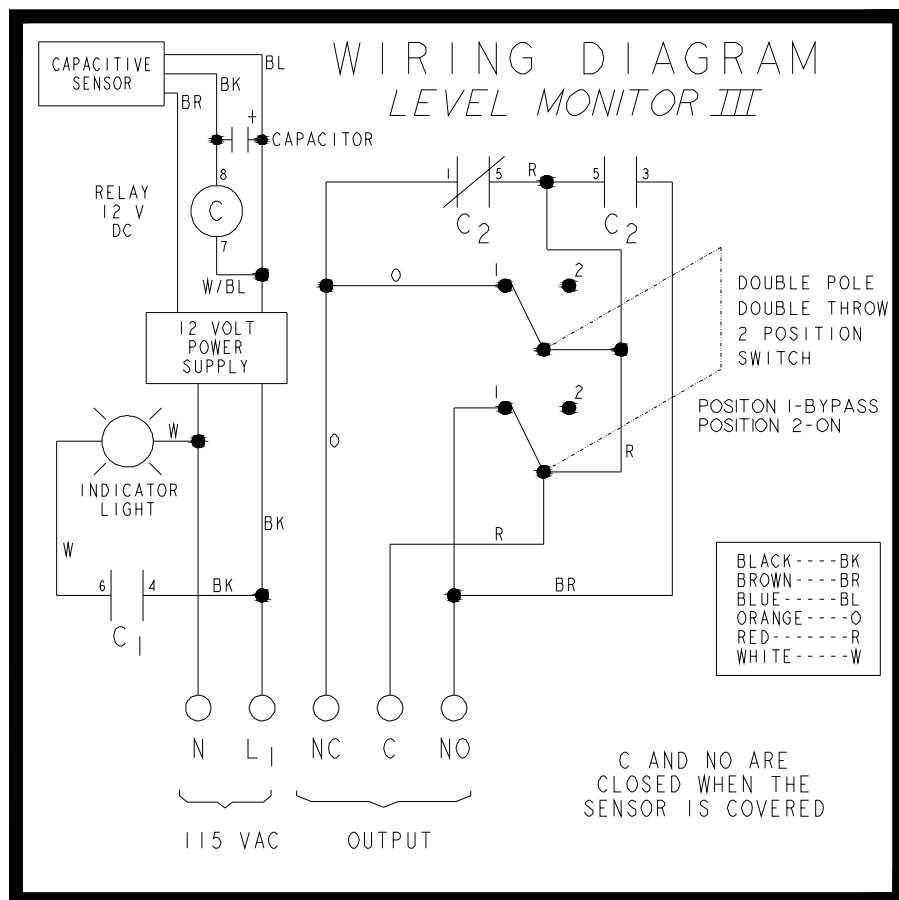
### OPERATION

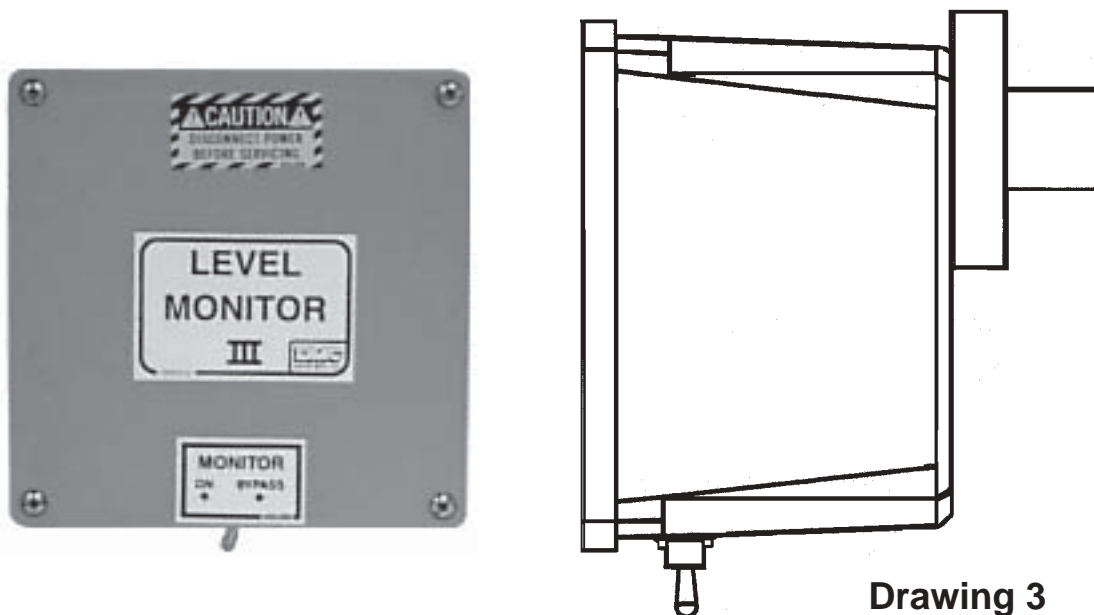
When the third toggle switch is in "automatic" position, the Stir-Ator will run when the grain is covering the Level Monitor proximity switch. The Stir-Ator will be off when the grain is lower than the Level Monitor. When the third switch is in "manual" position, the Stir-Ator will run continuously. In the "off" position, the Stir-Ator will not run.



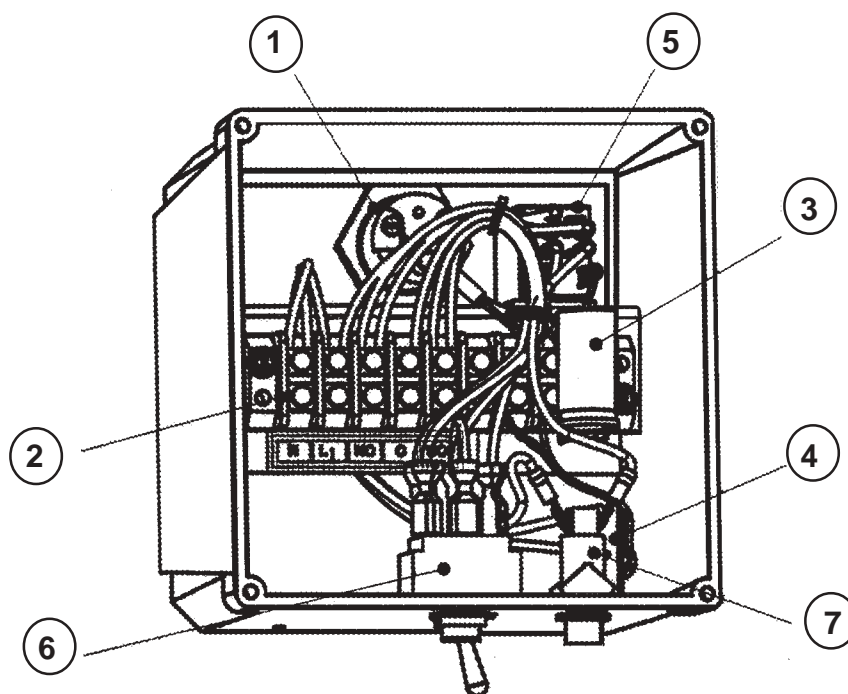
Drawing 1

Drawing 2



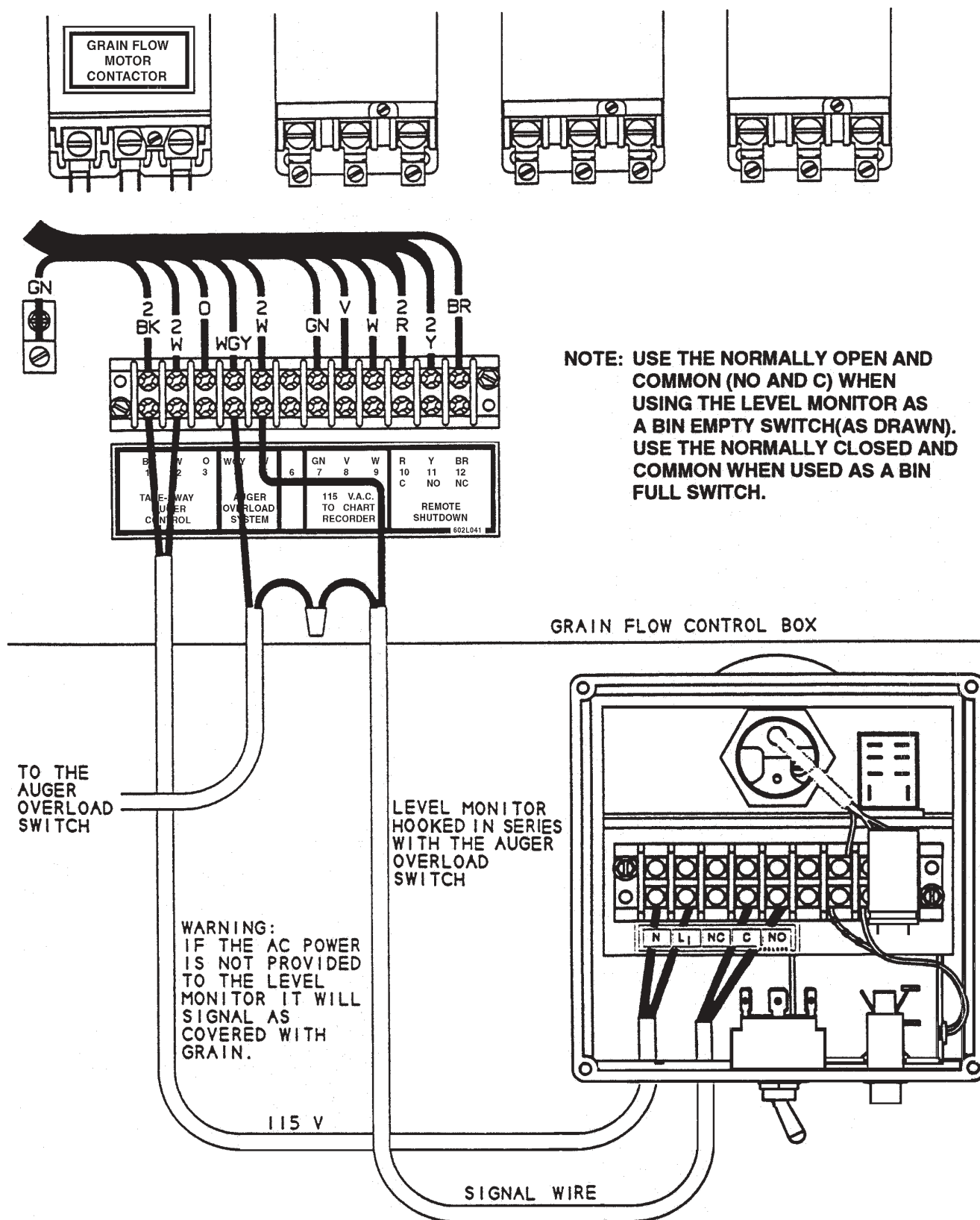


Drawing 3



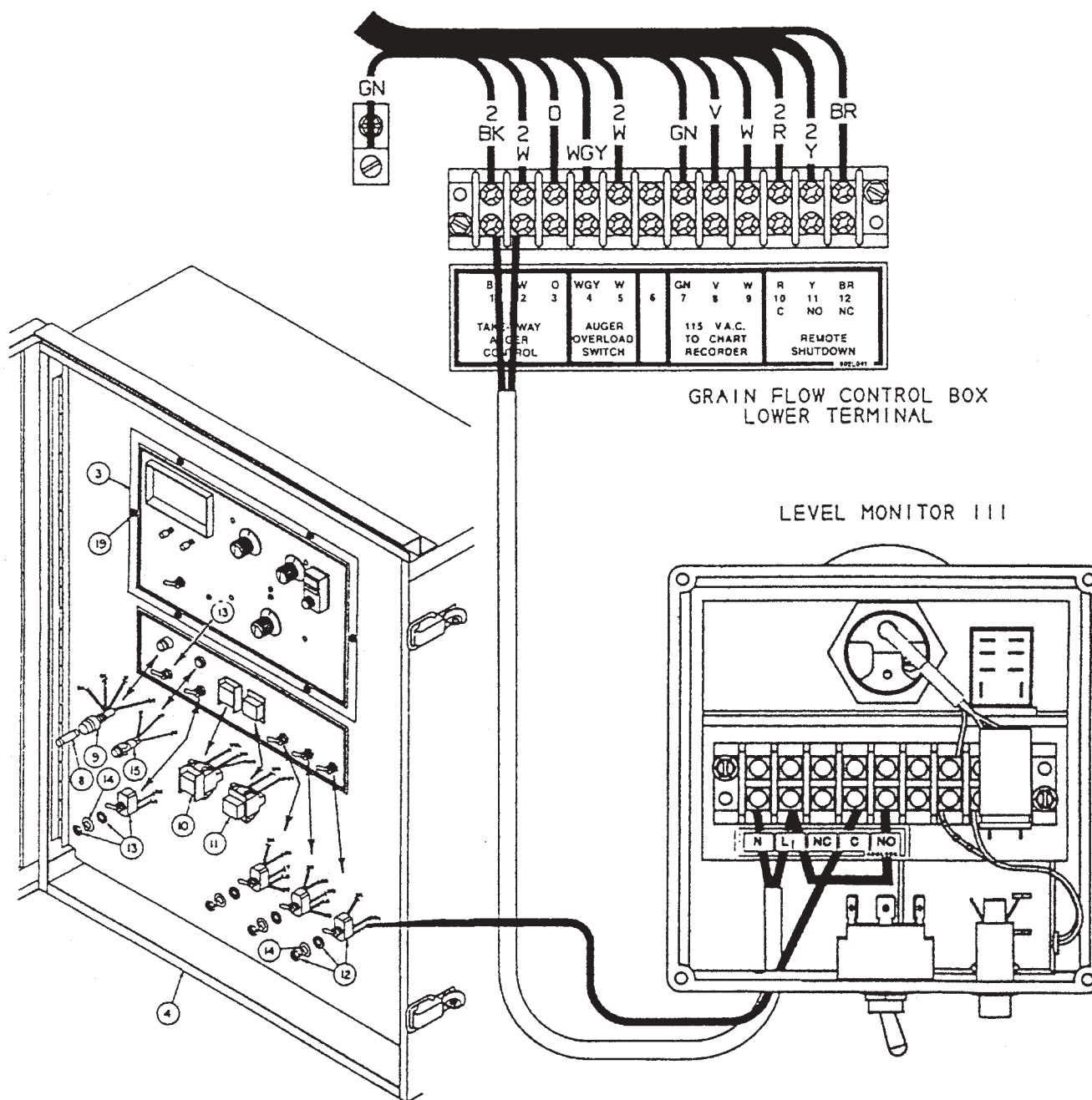
INDEX	PART	DESCRIPTION
1	4051021	Prox. Switch-DC (1EL1566 Preset by DMC)
2	1EL0899	Terminal Block - DBL (CSA) 9 Term. 30 AMP, 250V
3	1EL1077	Capacitor - 4700 uf, 25 V. SU Series
4	2EL0225	12 V Power Supply - Wallmount (OEM #45-750)
5	2EL0274	Relay - Gen. Purpose (CSA) Model LY, DPDT, 12 VDC
6	2EL0617	Switch - Toggle, DPDT, On-Off, Spade
7	2EL1161	Light - Indicator, Red (CSA) Neon, (AMP 380627-2)

## ELECTRICAL HOOK-UP FOR LEVEL MONITOR TO A GRAIN FLOW



Drawing 4

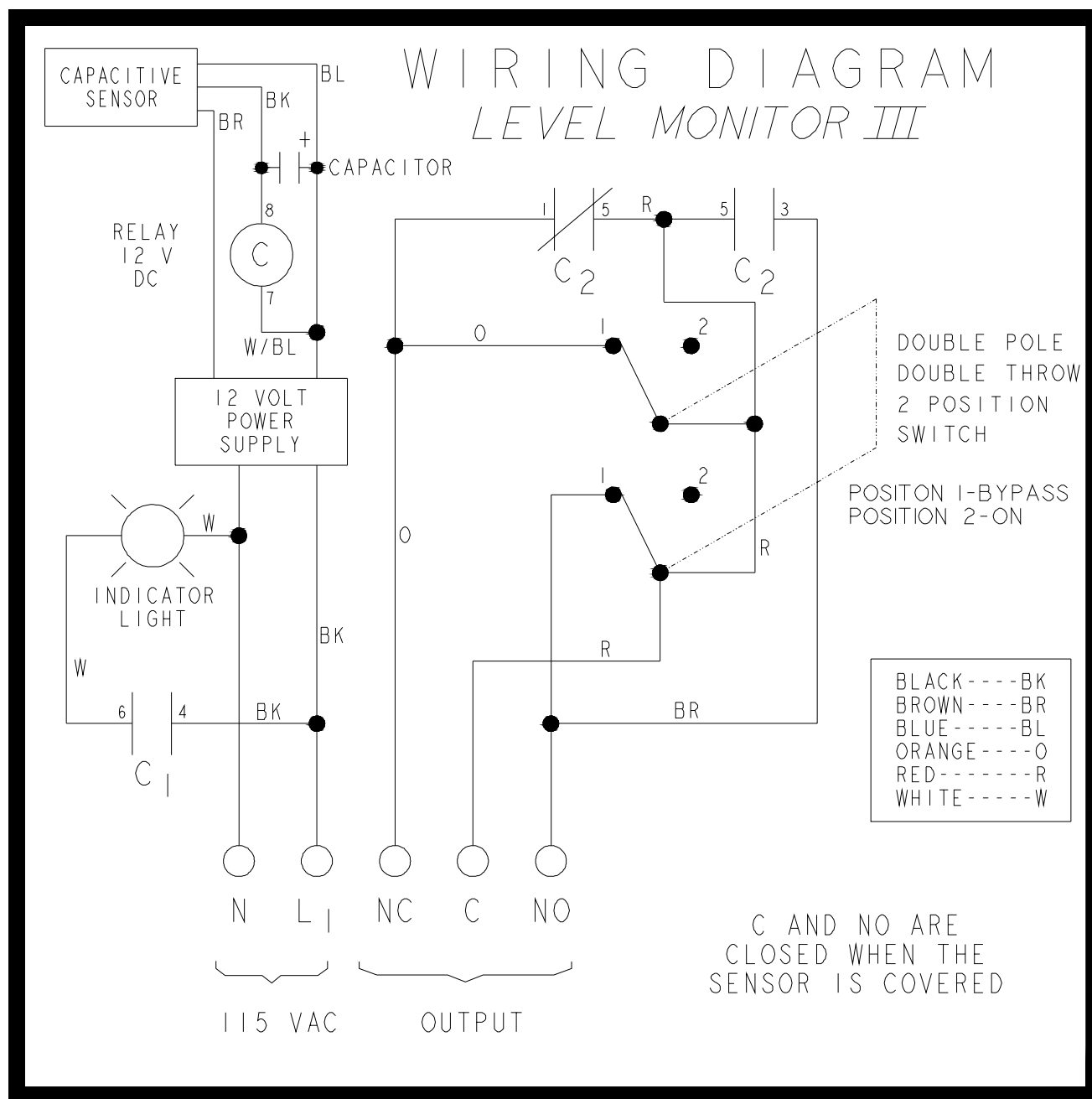
# ELECTRICAL HOOK-UP FOR LEVEL MONITOR AND A STIR-ATOR ABOVE A GRAIN FLOW



Drawing 5



## LEVEL MONITOR III WIRING DIAGRAM



Drawing 6



# LEVEL MONITOR III OWNER'S MANUAL

DMC markets across the U.S. and around the world.

For more information, contact the DMC Distribution Center nearest you.

**DMC's Corporate Headquarters, Factory  
and North Central Sales Center**

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