



## LAYCOCK SYSTEMS, INC.

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**DANGER-HIGH VOLTAGE  
USE EXTREME CAUTION  
PHYSICAL CONTACT WITH THE HIGH VOLTAGE TEST POINTS CAN BE  
LETHAL, CAUSE SEVERE SHOCK AND BURNS.**

### INSTRUCTIONS FOR INSULATION TESTER

#### CROWN MODEL 2109 (115VAC) & 2129 (230VAC)

Model 2109 and 2129 are impedance limited Insulation Testers. **CONNECT TO PROPER VOLTAGE SOURCE BEFORE OPERATING.** When a breakdown in insulation occurs, the tester will automatically shut off, and have to be manually reset. To reset the tester simply push the reset button. Crown high voltage, transformer type Insulation Testers are easy to use, for quick, positive determination of grounds, shorts, and broken wires in motors, transformers, and other low voltage equipment or wiring.

#### TEST

##### General:

1. Connect power cord to grounded electrical outlet per voltage specified on label at entrance of power cord.
2. Before Performing any testing, make sure all ground connections are proper and secure.
3. Before Performing any test, perform a thorough examination of both prods and the high voltage cable to verify proper and safe condition with no damage.
4. Set dial pointer (Selector Knob) to desired test voltage. Place power switch to "ON". Buzzer will sound. Press "START/RESET" button. Buzzer will shut off. pilot light will light indicating high voltage on the Test Prods and unit ready for testing.
5. Hold prod handles at the knurled portion and slide buttons forward with thumbs until contact test points are exposed.
6. Apply test points to work being tested. If voltage breakdown occurs, buzzer will buzz, pilot light will dim or turn off and test points will be de-energized. The "START/RESET" push button must be pressed to resume testing.

**CAUTION: Turn power switch "OFF" before changing test voltage.**

### **To test insulation between conductor and ground:**

Apply one point to a clean portion of the frame so good contact is made and the other point to one end of each coil in the apparatus. If insulation withstands the test of voltage successfully, the indicating lamp is not affected. However, when a breakdown of the insulation occurs, the pilot light on the tester will dim or turn off, the buzzer will sound, and the voltage to the prods will shut off. The tester must then be reset by manually pushing in the reset button.

To test insulation between coils:

Touch one point to the cleaned end of one coil and then touch the other point to one cleaned end of each of the other coils. Be sure that this test is made between each pair of coils.

On complete products (motors, lamps, appliances, etc.), which contain a power cord, the test is normally made from each of the prongs on the cord set plug to any exposed metal parts. Switch on unit under test in the "ON" position.

## **MAINTENANCE AND STORAGE**

When not in use, store unit within a plastic bag. Unit must undergo yearly calibration.

## **WARRANTY**

Crown's Motor Repair Equipment is warranted to the original owner against defects in materials and workmanship for ninety (90) days from date of purchase. Any part found to be defective (except by overloading, misuse, neglect, fire, accident, tampering with by unauthorized serviceman, or other cause beyond the manufacturer's control), will be replaced or repaired free of charge.

## **SPECIFICATIONS FOR INSULATION TESTER**

### **CROWN MODEL 2109 (115VAC) and 2129 (230VAC)**

**Primary power:** 50/60Hz, 1 phase, 115VAC (2109), 230VAC (2129). Test to 2500VAC in seven (7) steps: 500, 1080, 1250, 1500, 1750, 2000 & 2500.

**Range:** 500 - 2500VAC (NEMA recommendation for insulation test is twice normal voltage plus 1000 volts)  $\pm 5\%$  accuracy. Calibration is traceable to the National Institute of Standards and Technology.

**Construction (packaging):** Metal, corrosion protected.

**Transformer:** Completely sealed to reduce the possibility of shorting to the case. High capacity (500va), capable of testing motors 200HP and above.

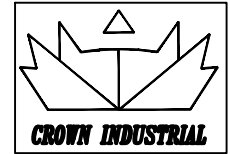
**Test Prods & Leads:** Self-retracting test points. They retract into fiber sleeves under spring tension to minimize chance of accidental contact with the points. Six (6)-foot long leads are high voltage insulated.

**Alarm circuit (breakdown):** When breakdown in the work piece occurs, the pilot light will go out and the buzzer will sound and the test voltage to the prods will shut down. Tester must be manually reset in order to resume testing.

**Spare Parts:** To be recommended on request.

**Enclosures:** Operating Instructions & equipment repair/replacement parts list.

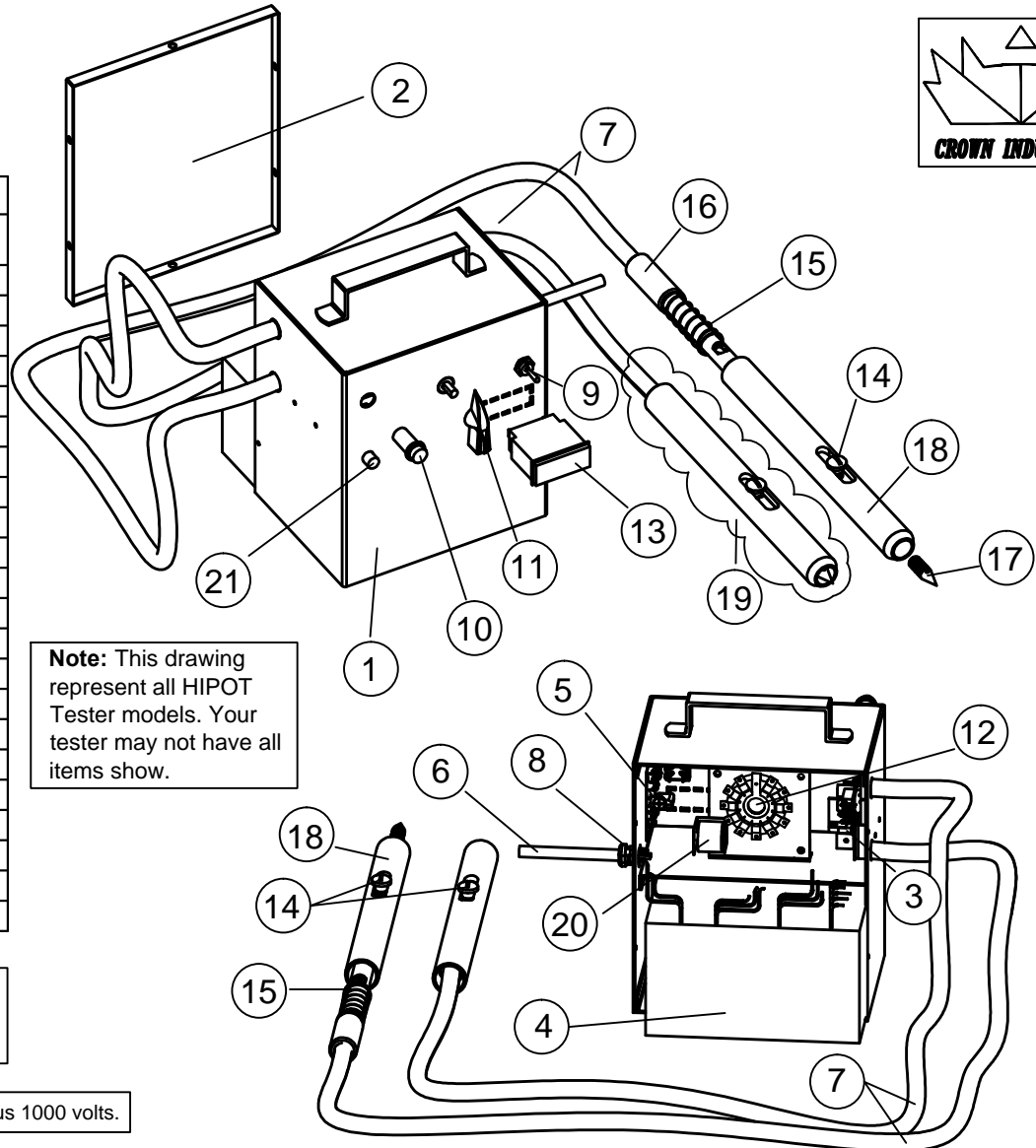
# HIPOT Insulation Testers



\*SAFETY TRAINING REQUIRED TO OPERATE THESE HIPOT INSULATION TESTERS

## PART LIST

ITEM	P/N	DESCRIPTION	QUANT
1	C802019	Case subassy.	1
2	C802020	Cover	1
3	C500024	Shutdown relay board assembly	1
4	C802011	Transformer, 115/230VAC	1
5	C500036	Volt meter board	1
6	C809004	Power Cord	1
7	C802021	Lead Wire (6 Feet)	2
8	C802003	Cord Bushing	3
9	C802007	Power Switch	1
10	C802032	Pilot Light	1
11	C802005	Selector Switch Knob	1
12	C500033	Voltage Selector Switch subassy.	1
13	C802205	Volt meter	1
14	C802025	Button screw	2
15	C802027	Spring	2
16	C802024	Inner prod sleeve	2
17	C802026	Prod point	2
18	C802023	Outer prod sleeve	2
19	C502160	Model #2160 Prod and Lead subassy.	2
20	C803002	Buzzer	1
21	C803003	Reset Button	1
N/A	C802039	Front Label	1



CAUTION: Turn power switch "OFF" before changing test voltage.  
Remove prods immediately to prevent damage to tester.

NEMA recommendation for insulation test is twice normal voltage plus 1000 volts.