Manitowoc Parts & Service Communicator

Subject: RNS012, RNS020 Touch Pad Diagnostics

RNS012 & RNS020 ice machines have two versions for selection of ice and water dispense. A low voltage touch pad replaces the mechanical line voltage selector switch. The two components are not interchangeable and identification is critical when diagnosing and ordering replacement parts.

The touch pad version uses an additional control board and input from the touch pad and dispense lever (or touchless sensor) to energize the water solenoid and ice dispense motor.

IDENTIFYING UNITS WITH THE LOW VOLTAGE TOUCH PAD

The low voltage touch pad has blue LED indicators, while the mechanical line voltage selector switch uses red indicators.

Touch Pad Sequence of Operation

Step 1 Pressing/selecting Ice, Water, or Ice & Water will energize the corresponding blue Led.

Step 2 The control board monitors the touch pad selection and waits for dispense lever or touchless sensor activation.

Step 3 Depressing the dispense lever or activating the touchless sensor closes the relay selected with the touch pad. Depending on selection, either the water solenoid, ice dispense motor or both components activate.

User Interface Selector Switch Position	Dispense Lever or Touchless Sensor Position	Ice Dispense Motor	Water Valve
Ice	Closed	On	Off
	Open	Off	Off
Water	Closed	Off	On
	Open	Off	Off
Ice & Water	Closed	On	On
	Open	Off	Off

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Diagnostics

DISPENSE LEVER ACTIVATED

Step 1 Verify line voltage is present at control board wires #20 & #22. Note - If a blue indicator light is energized on the touch pad the control board has line voltage.

Step 2 Depress each selection on the touch pad.

- 1 or more LED's do not energize/de-energize when a selection is pressed - Replace touch pad
- Each touch pad LED energizes/de-energizes as selections are pressed - Go to next step

Step 3 Isolate and ohm the ice dispense switch (Wires #59 & #60). The selector switch closes when depressed and opens when released.

- Switch does not close/open when the switch is pressed/released - Replace switch
- Switch closes/opens as the switch is pressed/released - Go to next step

Step 4 Reconnect dispense switch and test both relays for line voltage:

- Wires #58 & #54 = Ice Dispense Motor
- Wires #52 & #56 = Water Solenoid
- Replace wiring, component or control board as required

TOUCHLESS SENSOR ACTIVATED

Step 1 Verify line voltage is present at control board wires #20 & #22. Note - If a blue indicator light is energized on the touch pad the control board has line voltage.

Step 2 Depress each selection on the touch pad.

- 1 or more LED's do not energize/de-energize when a selection is pressed - Replace touch pad
- Each touch pad LED energizes/de-energizes as selections are pressed - Go to next step

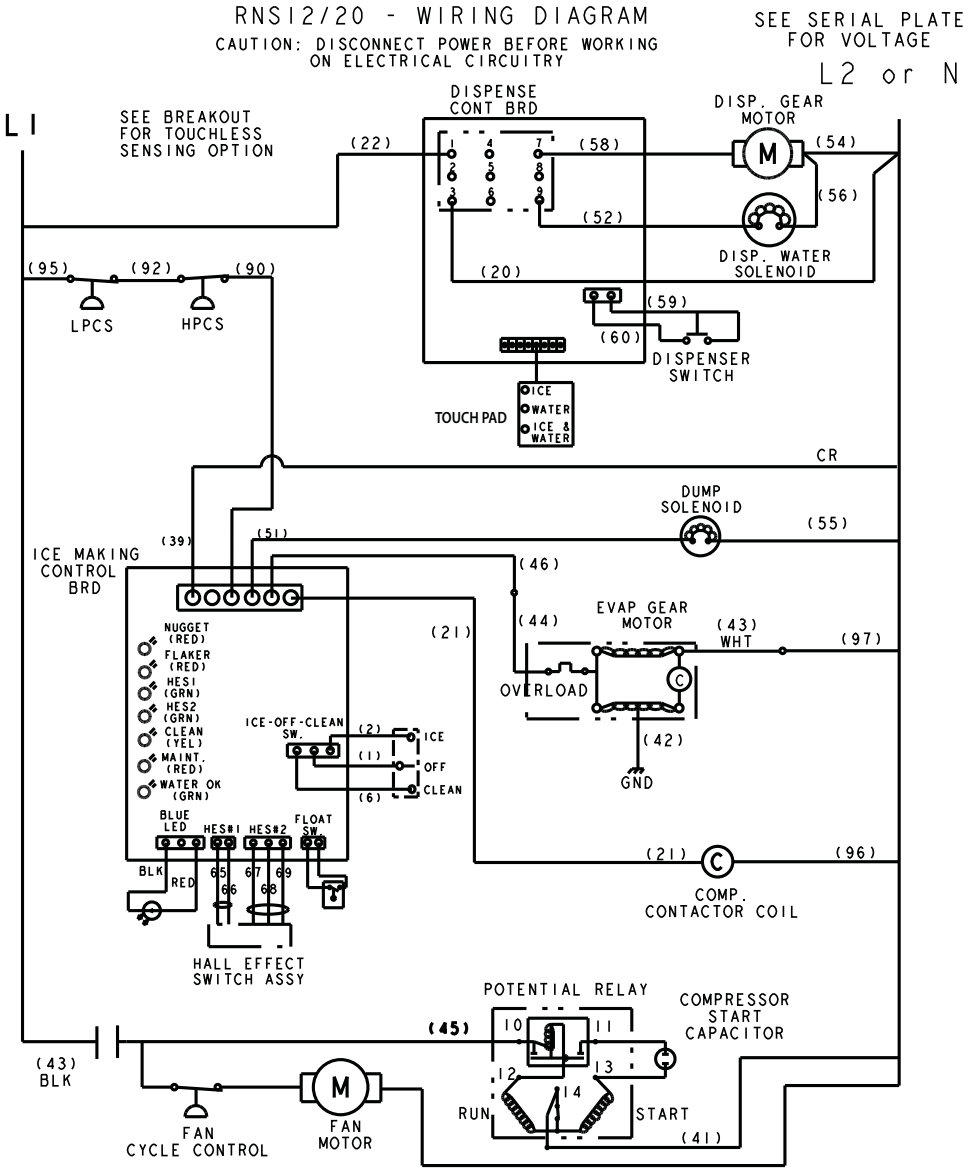
Step 3 Verify line voltage is supplied to touchless sensing control board at wires #49 & #50.

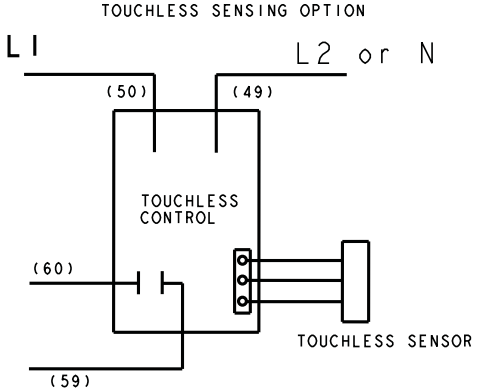
Will Not Dispense

- Disconnect wires from C (common) and NO (normally open) terminals on the sensor control board.
- Use an ohm meter to verify the switch is opening and closing. Place hand in front of sensor, if the sensor activates and closes the switch the sensor is working correctly.
- If the sensor does not activate the switch, disconnect the sensor wire from the sensor control board. Short +5 and SIG.
  - If the contacts close replace the sensor.
  - If the contacts remain open replace the sensor control board.

Will Not Stop Dispensing

- Disconnect sensor plug from sensor control board.
  - If the dispensing stops, replace the sensor
  - If the dispensing continues disconnect wires #59 & #60 from the control board
- Check resistance across control board contacts
  - Closed = Replace the touchless sensing control board
  - Open = Dispense control board is not functioning correctly, check control board relays


RNS12/20 - WIRING DIAGRAM
CAUTION: DISCONNECT POWER BEFORE WORKING ON ELECTRICAL CIRCUITRY
SEE SERIAL PLATE FOR VOLTAGE
L2 or N
L1
SEE BREAKOUT FOR TOUCHLESS SENSING OPTION
DISPENSE CONT BRD
DISP. GEAR MOTOR
DISP. WATER SOLENOID
LPCS
HPCS
DISPENSER SWITCH
TOUCH PAD
ICE
WATER
ICE & WATER
CR
DUMP SOLENOID
ICE MAKING CONTROL BRD
NUGGET (RED)
FLAKER (RED)
HES1 (GRN)
HES2 (GRN)
CLEAN (YEL)
MAINT. (RED)
WATER OK (GRN)
ICE-OFF-CLEAN SW.
ICE
OFF
CLEAN
BLUE LED
HES#1
HES#2
FLOAT SW.
BLK
RED
HALL EFFECT SWITCH ASSY
EVAP GEAR MOTOR
OVERLOAD
GND
WHT
COMP. CONTACTOR COIL
POTENTIAL RELAY
COMPRESSOR START CAPACITOR
RUN
START
FAN CYCLE CONTROL
FAN MOTOR


TOUCHLESS SENSING OPTION
L1
L2 or N
TOUCHLESS CONTROL
TOUCHLESS SENSOR