Manitowoc® Parts & Service Communicator

EC Model SCR Timer Operation and Diagnostics

S.C.R. TIMER

Silicon Rectifier (S.C.R.) Switch

FUNCTION

Extends the length of the freeze cycle (after the evaporator thermostat closes), initiates and terminates the harvest cycle.

SETTINGS

Dom (Delay On Make) dial indicates minutes and determines the additional length of freeze time after the evaporator thermostat closes. Factory setting is 11.5 minutes

SS (Single Shot time) dial indicates minutes and determines the length of the harvest cycle. Factory setting is 3.5 minutes.

NOTE: The evaporator thermostat must open the trigger contact (#6) to reset the freeze cycle time. If power is not broken at terminal #6 the ice machine will remain in the freeze cycle and never initiate a harvest cycle.

OPERATION

Total freeze cycle time equals the time it takes to close the evaporator thermostat plus 11.5 minutes.

Total harvest time is the setting on the SCR timer SS dial.

DURING THE FREEZE CYCLE

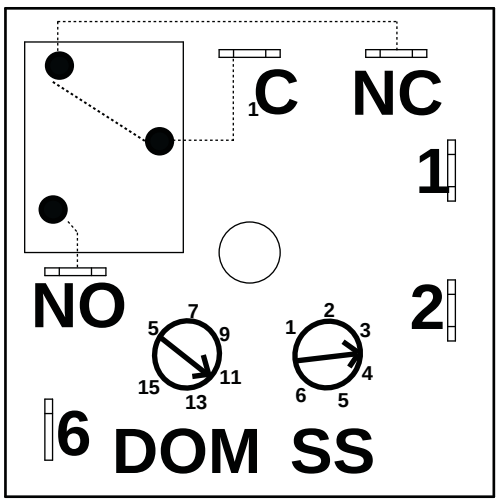
After the evaporator thermostat closes, the timer is supplied with power. The ice machine remains in freeze until the timer reaches the setpoint time. Contacts 6 & NO (normally open) on the timer close to supply power to the hot gas and water inlet valves.

DURING THE HARVEST CYCLE

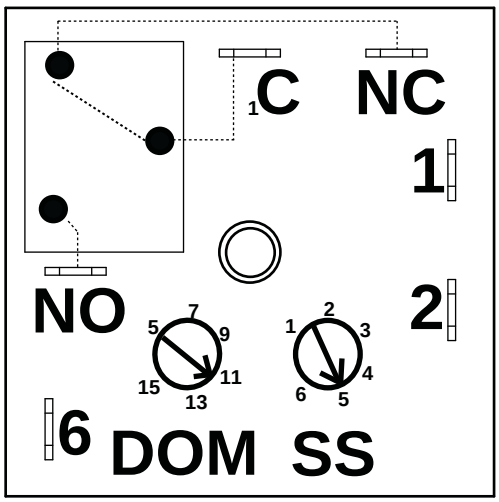
The ice machine remains in harvest until the timer reaches the time set with the SS dial on the SCR timer.

LOW AMBIENT ADJUSTMENT FOR SCR TIMER

Adjust SS (single shot time) dial from 3.5 minutes to 5 minutes.



Factory Default Setting



Low Ambient Adjustment

Ice Machine Operates Normally In Freeze Cycle, But Will Not Harvest

NOTE: To minimize the time required for diagnostics, do not thaw or remove ice from the evaporator. If ice is not present on the evaporator, additional time will be required to lower the evaporator temperature and close the evaporator thermostat.

Voltage Test	Result/Procedure For Voltage Test Result
Verify line voltage is present at SCR terminals 1 & 2 and C & 2.	**Line voltage is not present and water pump is energized** Repair wiring to SCR terminal #2.
Check for line voltage at SCR terminals 2 & 6.	**Line voltage is not present at SCR Terminals 2 & 6** Verify evaporator temperature is below setpoint and evaporator thermostat contacts C & H are closed. **Evaporator Thermostat Check Procedure** 1. Verify the evaporator thermostat bulb is inserted correctly (flush with end of bulb well). 2. Verify evaporator is frosted and evaporator temperature at bulb well is 0°C or colder. 3. Turn the thermostat adjustment back and forth from coldest to warmest settings and verify contacts change position. When the temperature at the thermostat bulb is 0°C adjusting the thermostat from warmer to colder must change the contact positions.
	Line Voltage is present At SCR Terminals 2 & 6 **Check Procedure** 1. Adjust DOM (Delay On Make) time to 5 minutes. 2. Momentarily disconnect, then reconnect power to SCR terminal #6. 3. Wait 5 minutes for the time delay to expire **Ice machine cycles into harvest after 5 minute delay period** - Refer to evaporator thermostat check procedure above.The evaporator thermostat must open the trigger contact (#6) to reset the freeze cycle time. If power is not broken at # 6 the ice machine will remain in the freeze cycle and never initiate a harvest cycle. **Ice Machine remains in freeze cycle after 5 minute delay period** - Replace SCR timer.

