

## BinLogic principle of operation

The BinLogic has a unique set of features and functionality that as the name implies include intelligence and logic.

Even before we start making ice, it is important to check that the crankcase heater is functional. The BinLogic has a sensing circuit that detects that the crankcase heater is working and will not permit the compressor to turn on unless the crankcase heater reports okay.

On startup the BinLogic will always wait for 3 minutes from a cold start or from the last time the compressor turned off before it will permit the compressor to come back on.

The flow switch and the RPM switch are constantly monitored to confirm that water is flowing and the crusher is spinning at the correct speed. On startup the pump is run for 10 seconds to confirm that water is flowing through the halos, then the crusher motor is run for 10 seconds to confirm that the crusher is spinning before the compressor is allowed to turn on.

On startup the first cycle is always the Harvest cycle. This permits the compressor to start on low load since the hot gas valves are open and also ensures that if there was any remnant ice on the tubes it will clear before going into the make cycle.

After 30 seconds the make cycle starts and will run for 7 minutes.

Low pressure (suction pressure), high pressure and oil pressure switches are always monitored. The compressor will be immediately shut down if any of these were to trip.

If a fault is detected, the flush cycle is initiated which keeps the pump and the crusher running for 30 minutes to clear any ice that may have been left on the tubes. Additionally, if the fault was due to the crusher or pump, the flush cycle will only run the functional pump or crusher respectively.

After 7 minutes precisely the harvest cycle is initiated and the fans will be turned off overriding the fan cycle. The first check is that the positive harvest control switch is made indicating that the suction pressure fell below the preset limit. If the PHC is not on then a PHC fault is reported. Also, during the harvest cycle the PHC is timed and expected to cut out within 3 minutes. In both cases a PHC fault is reported and a flush cycle is initiated.

Once the PHC turns off, the Harvest cycle is allowed to run for an additional 30 seconds to ensure that any remaining ice is cleared off the tubes, the fan cycle switches are enabled once the PHC turns off. Both these checks ensure that you will never ever have a freeze up on your tubes.

The compressor contactor is also constantly monitored and if its coil becomes weak or fails to engage The system is shut down and a contactor fault is reported.

All faults are reported by way of an LED flashcode. There are up to 13 possible fault codes and a label included in the package describes each fault.

The manual include step-by-step instructions explaining the expected cause of a fault and how to resolve it.

The fault codes are retentive which means that even if the fault that caused the error resets itself, the BinLogic logic will retain the fault code and prevent operation until you manually reset it.

To reset the BinLogic, simply move the toggle switch to the pump position for 10 seconds then back to off and then to make. If the cause of the faults has been resolved the ice maker should resume normal operation or alternatively if the fault has not been resolved, the flash code will reappear.

Keep in mind that the bin logic inputs include histerysis which ensures that short cycling is prevented by requiring all inputs to be steady for 2 seconds before they affect operations.