

Micro Control Systems

APPLICATION NOTE

APP-024

Hartford Screw Compressor

Revision History

Date	Author	Description
2/29/00	RCT	Hartford screw set up

HARTFORD SCREW COMPRESSOR

This Application Note outlines the configuration set up and sequence of relay outputs for the Hartford Screw Compressor, the wiring and how the circuit states function.

Theory

- **Only** the standard chiller algorithm supports the Hartford screw compressor. This is selected when the configuration file is being created.

From the Chiller Information Screen select Compressor Type and then click on Hartford Screw Comp:

Complete the compressor information in the Circuit section of the Chiller Information Screen:

CIRCUITS						
	Circuit #	Num of Compressor ROs	Starting Compressor RO	Num of Condensor ROs	Starting Condensor RO	Suction Pressure
▶	1	4	COMP1	0	Not Used	SUCT1
	2	0	Not Used	0	Not Used	Not Used
	3	0	Not Used	0	Not Used	Not Used
	4	0	Not Used	0	Not Used	Not Used

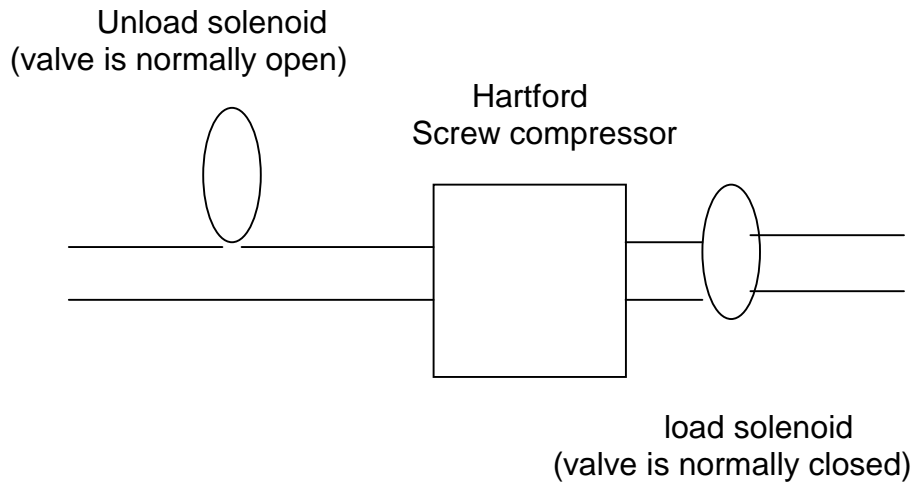
- The compressor points are:
- Compressor
- Loader
- Unloader
- Liquid Line Solenoid

Note, these points must be in this sequence.

Complete the RO information screen:

Relay Output Information Screen				
#	Name	Display Button	Max Pulses (10th of Sec.)	
▶ M-1	COMP1	Not Used	0	
M-2	LOAD1	Not Used	0	
M-3	UNLOAD1	Not Used	0	
M-4	LLS1	Not Used	0	
M-5	SPAREM-5	Not Used	0	
M-6	SPAREM-6	Not Used	0	
M-7	ALARM	Not Used	0	
M-8	CTL PWR	Not Used	0	

- Compressor layout:



MCS-8 wiring:

- Compressor wired to the NO on the associated MCS-8 RO point.
- Unloader wired to the NC on the associated MCS-8 RO point.
(when the point reads OFF, the solenoid will be energized and therefore valve will be closed)
- Loader wired to the NO on the associated MCS-8 RO point.

Circuit states:

STATE	COMP RO	COMP ACTUAL	UNLOAD RO	UNLOAD VALVE	LOAD ER RO	LOAD VALVE
OFF	OFF	OFF	ON	OPEN	OFF	CLOSED
HOLDING	ON	ON	OFF	CLOSED	OFF	CLOSED
UNLOADING	ON	ON	ON	OPEN	OFF	CLOSED
LOADING	ON	ON	OFF	CLOSED	ON	OPEN

NOTE: When the unloader solenoid is energized, the valve is closed, when it is NOT energized the valve is open.

General notes:

- There is no fast unload solenoid that must be pulsed prior to compressor start up.
- Upon compressor start, the unloader will be turned on for 60 seconds.
- There is no oil control.