

# **Micro Control Systems**

APPLICATION NOTE

APP-087

## **Hartford Compressor ATPE500 Temperature Sensor Input to MCS-MAGNUM**

### **Revision History**

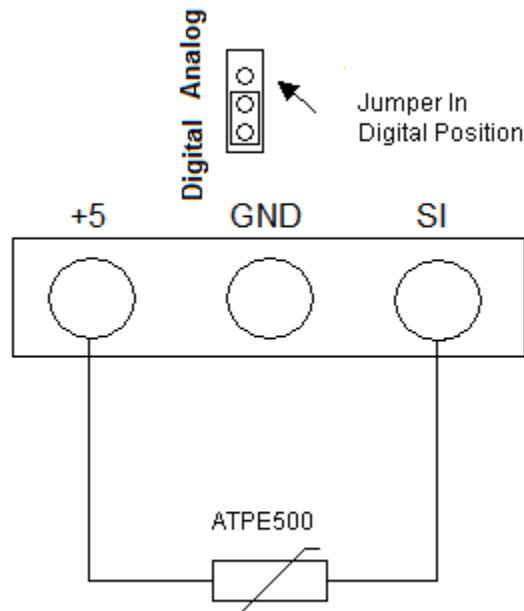
Date	Author	Description
10/15/13	CLH	Create initial version

## Wiring of ATPE500 Temperature Sensor to Magnum

The ATPE500 is a 2 wire thermister embedded in the compressor motor. Use the following installation instructions:

1. Wire to the Digital sensor input selected through the Magnum config.
2. Attach one of the ATPE500 wires to the +5 on the Magnum sensor input terminal block and attach the other ATPE500 wire to SI on the Magnum sensor input terminal block.

## Magnum Sensor Input Wiring Diagram



## Reading the ATPE500

### ATPE500 Display Type

To read the Sensor Display Type named (ATPE500), you must use the following versions of MCS-CONNECT, MCS-CFG, and Software Hex file or higher:

1. MCS-Connect Version: 14.00W
2. MCS-Config Version: 14.00S
3. Magnum Software Hex Version: 14.01R

Sensor Input Information Screen												
#	Name (1 to 10 char)	Display Type	Offset	Manual Value or NC/NO (select to change)	Display Text (select to change)	Temp./GPM / CFM / Pwr Factor SI	Humid./PSI / Temp. Diff./ Enth. Diff.	Auto/Manual (Click here for all)	Circuit Index	Multiplier	Divisor	Offset
M-1	RETURN AIR	ATPE500	0	0	Not Used	Not Used	Not Used	Auto	Not Used	Not Used	Not Used	Not Used
M-2	SUPPLY AIR	MCST100	0	30	Not Used	Not Used	Not Used	Manual	Not Used	Not Used	Not Used	Not Used
M-3	AMBIENT	MCST100	0	33	Not Used	Not Used	Not Used	Manual	Not Used	Not Used	Not Used	Not Used
M-4	PROOF C1	DIGITAL	Not Used	Open=OFF	NO/YES	Not Used	Not Used	Manual ON	Not Used	Not Used	Not Used	Not Used
M-5	PROOF C2	DIGITAL	Not Used	Open=OFF	NO/YES	Not Used	Not Used	Manual ON	Not Used	Not Used	Not Used	Not Used
M-6	PROOF C3	DIGITAL	Not Used	Open=OFF	NO/YES	Not Used	Not Used	Manual ON	Not Used	Not Used	Not Used	Not Used
M-7	PROOF C4	DIGITAL	Not Used	Open=OFF	NO/YES	Not Used	Not Used	Manual ON	Not Used	Not Used	Not Used	Not Used
M-8	PROOF C5	DIGITAL	Not Used	Open=OFF	NO/YES	Not Used	Not Used	Manual ON	Not Used	Not Used	Not Used	Not Used
M-9	PROOF C6	DIGITAL	Not Used	Open=OFF	NO/YES	Not Used	Not Used	Manual ON	Not Used	Not Used	Not Used	Not Used
M10	CFM1+2 ALM	DIGITAL	Not Used	Closed=OFF	OK/TRIP	Not Used	Not Used	Manual OFF	Not Used	Not Used	Not Used	Not Used

## ATPE500 Temperature

T°C	T°F	Rnom	Vo
(°C)	(°F)	(Ω)	(Volts)
-5	23	21,157	.051
0	32	16,325	.066
5	41	12,697	.085
10	50	9,952	.108
15	59	7,857	.136
20	68	6,247	.170
25	77	5,000	.211
30	86	4,028	.259
35	95	3,265	.316
40	104	2,662	.382
45	113	2,183	.458
50	122	1,800	.545
55	131	1,493	.643
60	140	1,244	.752
65	149	1,041	.874
70	158	875.8	1.005
75	167	740.1	1.147
80	176	628.1	1.299
85	185	535.3	1.458
90	194	458.1	1.624
95	203	393.5	1.795
100	212	339.3	1.969
105	221	293.7	2.144
110	230	255	2.318