



POINTS LIST

POINT NAME	POINT DESCRIPTOR	POINT TYPE				REMARKS
		DI	AI	DO	AO	
CDWx.DP	CDWx Diff Press			1		
CDWx.HPWS-T	CDWx HPWS Temp		1			
CDWx.HPWR-T	CDWx HPWR Temp		1			
CDWx.CT-xx-C	CDWx CT Start/Stop			1		
CDWx.CT-xx-SPD	CDWx CT Speed				1	
CDWx.CT-xx-STs	CDWx CT Status	1				
CDWx.CDW-PMP-xx-C	CDWx CWPx S/S			2		
CDWx.CDW-PMP-xx-STs	CDWx CWPx Status	2				
CDWx.CDWS-T	CDWx CWS Temp		1			
CDWx.CDWR-T	CDWx CWR Temp		1			
CDWx.B-ENA	CDWx Boilers Enable		1	1		(may be network pt)
CDWx.B-RST	CDWx Boilers Setpoint			1	1	(may be network pt)
CDWx.HWS-T	CDWx HWS Temp		1			(may be network pt)
CDWx.Bx-ALA	CDWx Boiler x Alarm	2				(may be network pt)
CDWx.Bx-STs	CDWx Boiler x Status	2				(may be network pt)
CDWx.Bx-HWS-T	CDWx Bx HWST		2			(may be network pt)
CDWx.PMP-xx-C	CDWx HPWPx S/S			2		
CDWx.PMP-xx-SPD	CDWx HPWPx Speed			2		
CDWx.PMP-xx-STs	CDWx HPWPx Status	2				
CDWx.HXS-T	CDWx HX Lvg Temp		1			
TOTALS		9	9	6	4	

NETWORK INTERFACE POINT LIST

POINT	POINT DESCRIPTOR	POINT TYPE		UNITS
		READ	WRITE	
<i>(Variable Speed/Freq Drives)</i>				
VSD.SPD	Speed	Y		RPM
VSD.FREQ	Output Frequency	Y		Hz
VSD.AMPS	Current	Y		A
VSD.TORQ	Torque	Y		% of motor
VSD.PWR	Power	Y		kW
VSD.DCBV	DC Bus Voltage	Y		V
VSD.OV	Output Voltage	Y		V
VSD.ACC	Accelerate	Y	Y	Hz per second
VSD.DEC	Decelerate	Y	Y	Hz per second
VSD.LOCAL	Panel Local	Y		ON/OFF
VSD.FAULT	Fault Status	Y		Mfg Code
VSD.DRV	Drive Status	Y		Mfg Code
VSD.KWHR	Kilowatt Hours	Y		kWh
<i>(Boilers)</i>				
B.CFH	Call For Heat	Y		ON/OFF
B.IGN	Ignition On	Y		ON/OFF
B.PF	Pilot Failure	Y		ON/OFF
B.LW	Low Water	Y		ON/OFF
B.FF	Flame Failure	Y		ON/OFF
B.PPT	Post Purge Timer	Y		sec
B.RST	Supply Temp Reset	Y	Y	*F
B.BP	Boiler Pressure	Y		psig

LOGIC VARIABLES

BINARY	ANALOG	DESCRIPTION	#
CMode		ON WHEN SYSTEM IS INDEXED TO COOLING MODE	7
HMode		ON WHEN SYSTEM IS INDEXED TO HEATING MODE	3
Sysgo		ON WHEN SYSTEM IS ENABLED	2
DEC		ON WHEN BOILER STAGING COMMAND IS STEPPING DOWN	2
Bx		ON WHEN BOILER x IS COMMANDED ON	7
HPx		ON WHEN HOT WATER PUMP x IS COMMANDED ON	2
SPx		ON WHEN HEAT PUMP WATER PUMP x IS COMMANDED ON	2
Px		ON WHEN COOLING TOWER WATER PUMP x IS COMMANDED ON	2
PxFL		ON WHEN COOLING TOWER WATER PUMP x IS IN ALARM	2
CWOK		ON WHEN EITHER COOLING TOWER WATER PUMP IS PROVEN	2
HPWS		VARIABLE VALUE OF CURRENT HEAT PUMP WATER SUPPLY TEMPERATURE	2
#BLRS		VARIABLE VALUE OF ACTIVE NUMBER OF COMMANDED BOILERS	2
BxRT		VARIABLE VALUE OF BOILER x ACCUMULATED RUN TIME	2
BSP		VARIABLE VALUE OF ACTIVE BOILER SET POINT	2
CSP		VARIABLE VALUE OF ACTIVE COOLING TOWER SET POINT	2
SPxRT		VARIABLE VALUE OF HEAT PUMP WATER PUMP x ACCUMULATED RUN TIME	2
PSPD		VARIABLE VALUE OF HEAT PUMP WATER PUMP CALCULATED SPEED	2
PxRT		VARIABLE VALUE OF COOLING TOWER WATER PUMP x RUN TIME	2

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UNIVERSITY of VIRGINIA
 FACILITIES MANAGEMENT
 HVAC CONTROLS STANDARDS

Eng	HJN
Drawn	HJN
Chkd	---
Appd	---
Issued	8/4/11
Job No.	10080
Scale	N/A
Proj Code	

STANDARD

HEAT PUMP WATER SYSTEM CONTROL (LOGIC)

25 OF 30 SHEET NUMBER

C-3.2b

DWG NUMBER