

BULLETIN NUMBER: PTB-LOGIC-ADD
 CATEGORY: Programming
 BULLETIN: Logic Functions and Addresses
 DATE: January 6, 2006

Functions and Addresses for Logic Programming

UNIVERSAL INPUT POSITIONS

	<u>Physical</u>	<u>Virtual</u>	<u>Fast Read</u>	<u>Fast Read</u>
Sensor 1:	1711	1759	1727	
Sensor 2:	1713	1761	1729	
Sensor 3:	1715	1763	1731	> 150 = On
Sensor 4:	1717	1765	1733	< 100 = Off
Sensor 5:	1719	1767	1735	
Sensor 6:	1721	1769	1737	
Sensor 7:	1723	1771	1739	
Sensor 8:	1725	1773	1741	

UNIVERSAL INPUT AVERAGE

Input 6: 1865
 Input 7: 1867

DIGITAL INPUT POSITIONS

<u>Maintained</u>			<u>Pulses</u>	
Input 1:	130		Counter Input 1:	134
Input 2:	131	0 = Off	Counter Input 2:	136
Input 3:	132	1 = On	Counter Input 3:	138
Input 4:	133		Counter Input 4:	140

DIGITAL OUTPUT POSITIONS (Read Only)

Output 1: 713
Output 2: 714
Output 3: 715
Output 4: 716 0 = Off
Output 5: 717 1 = On
Output 6: 718
Output 7: 719
Output 8: 720

LOGIC CONTROL

Output 1: 64654 0 = Auto 1 = On 2 = Off
Output 2: 64655
Output 3: 64656
Output 4: 64657
Output 5: 64658
Output 6: 64659
Output 7: 64660
Output 8: 64661

MANUAL CONTROL

Enable: 767 0 = Disable 1 = Enable

Output 1: 768 0 = Off 1 = On 2 = Auto
Output 2: 769
Output 3: 770
Output 4: 771
Output 5: 772
Output 6: 773
Output 7: 774
Output 8: 775

PULSE OUTPUT CONTROL (Pulse Output in Seconds up to 255)

Output 1: 858
Output 2: 860
Output 3: 862
Output 4: 864
Output 5: 866
Output 6: 868
Output 7: 870
Output 8: 872

TIMED OVERRIDE MINUTE CONTROL (Output Enabled in Minutes up to 255)

Enable: 776 0 = Disable 1 = Enable

Output 1: 777
Output 2: 778
Output 3: 779
Output 4: 780
Output 5: 781
Output 6: 782
Output 7: 783
Output 8: 784

TIMED OVERRIDE HOUR CONTROL (Output Enabled in Hours up to 255)

Output 1: 1954
Output 2: 1955
Output 3: 1956
Output 4: 1957
Output 5: 1958
Output 6: 1959
Output 7: 1960
Output 8: 1961

SETPOINT OCCUPIED CONTROL

Mode: 0 = Disable 1 = Cool 2 = Heat 3 = Heat/Cool 4 = Automatic

	<u>Mode</u>	<u>Sensor</u>	<u>Setpoint</u>	<u>DB On</u>	<u>DB Off</u>
Output 1:	1775	1776	1777	1779	1780
Output 2:	1781	1782	1783	1785	1786
Output 3:	1787	1788	1789	1791	1792
Output 4:	1793	1794	1795	1797	1798
Output 5:	1799	1800	1801	1803	1804
Output 6:	1805	1806	1807	1809	1810
Output 7:	1811	1812	1813	1815	1816
Output 8:	1817	1818	1819	1821	1822

ANALOG OUTPUT CONTROL

Loop: 0 = Disable, 1 = Enable
Action: 0 = Direct Acting, 1 = Reverse Acting
Economizer: 0 = Disable, 1 = Enable
Link: Output 1 - 8

	<u>Loop</u>	<u>Sensor</u>	<u>Setpoint</u>	<u>Delay</u>	<u>Action</u>	<u>Gain</u>	<u>Off Pos</u>	<u>Econo</u>	<u>Link</u>
Output 1:	1302	1303	1304	1306	1307	1308	1309	1310	1311
Output 2:	1312	1313	1314	1316	1317	1318	1319	1320	1321
Output 3:	1322	1323	1324	1326	1327	1328	1329	1330	1331
Output 4:	1332	1333	1334	1336	1337	1338	1339	1340	1341

	<u>Min</u>	<u>Max</u>
Output 1:	1566	1567
Output 2:	1568	1569
Output 3:	1570	1571
Output 4:	1572	1573

ANALOG OUTPUT VALUES

Output 1: 1294 Raw Value 0-255
Output 2: 1295
Output 3: 1296 For Voltage Display on Graphics use AODATA
Output 4: 1297

SETPOINT LINKING

Cooling / Setpoint 1: 61026
Heating / Setpoint 2: 61028

Setpoint Linking Function: 61025 0 = Enabled / 1 = Disabled
Disable Setpoint Offsets (No Sensor): 61054 Set to 0 continuously

SETPOINT UNOCCUPIED

	<u>Cooling</u>	<u>Heating</u>
Output 1:	1823	1825
Output 2:	1827	1829
Output 3:	1831	1833
Output 4:	1835	1837
Output 5:	1839	1841
Output 6:	1843	1845
Output 7:	1847	1849
Output 8:	1851	1853

HIGH SIGNAL COUNTERS

Must Enable Global Alarms

Board 1:	64079	System High Signal Counter 1
	64081	System High Signal Counter 2
Additional Boards:	64076	Board High Signal Counter 1
	64077	Board High Signal Counter 2

By setting the value in the additional boards, the highest total will be displayed in Board 1

OCCUPIED STATUS (Read Only)

Mode: 0 = Unoccupied 1 = Occupied 2 = Override

Output 1:	64631
Output 2:	64632
Output 3:	64633
Output 4:	64634
Output 5:	64635
Output 6:	64636
Output 7:	64637
Output 8:	64638

MATH FUNCTIONS

	<u>Add</u>	<u>Subtract</u>	<u>Multiply</u>	<u>Divide</u>
Formula value 1:	64039	64045	64051	64057
Formula value 2:	64041	64047	64053	64059
Formula result:	64043	64049	64055	64061

USER VARIABLES

Range: 63763 - 63863 (Odd Numbers Only - 50 Total)

Range (Additional in Integrator): 10074 - 14074 (Even Numbers Only - 2000 Total)

LOGIC TIMERS (Delay)

Timer 1:	63999	Timer 11:	64019
Timer 2:	64001	Timer 12:	64021
Timer 3:	64003	Timer 13:	64023
Timer 4:	64005	Timer 14:	64025
Timer 5:	64007	Timer 15:	64027
Timer 6:	64009	Timer 16:	64029
Timer 7:	64011	Timer 17:	64031
Timer 8:	64013	Timer 18:	64033
Timer 9:	64015	Timer 19:	64035
Timer 10:	64017	Timer 20:	64037

DAYLIGHT SAVINGS TIME FUNCTION

Daylight Savings Time: 1934
0 = Use daylight savings time
1 = Disable daylight savings time

TIME & DATE

Hour: 29
Minutes: 30
Seconds: 850
Month: 31
Day of Month: 32
Year: 33
Day of Week: 28 (0 = Sunday, 6 = Saturday)
Daylight Savings: 1934 (0 = Enabled, 1 = Disabled)

HISTORY FUNCTION & RESET

Function: 60694 0 = Disable 1 = Enable
Analog Inputs: 757 & 758 (Set to 0)
DO/DI Runtimes: 63869 & 63870 (Set to 0)

DIGITAL OUTPUT LOAD STATUS

Output 1:	803	1 = Manual override
Output 2:	804	2 = Pushbutton override
Output 3:	805	3 = Timed override
Output 4:	806	4 = Temperature alarm
Output 5:	807	5 = Temperature unoccupied
Output 6:	808	6 = Demand load shedding
Output 7:	809	7 = Holiday schedule
Output 8:	810	8 = Temperature occupied
		9 = Daily schedule
		A = Timed override seconds
		B =
		C = Automatic manual override
		D = Lead/lag control
		E = Timewatch override
		F = Time schedules
		10 = Minimum on/off
		11 = Global hour override
		12 = Global manual off
		13 = Duty cycle
		14 = DI/DO alarm
		15 = DI/AI alarm

PSC/100 AUTOMATIC RESET FUNCTION

Automatic Soft Reset:	63865	0 = Disable automatic reset
		1 = Enable automatic reset
Automatic Soft Reset Cycle:	63866	# = Hours (begins at enable setup)

DO / DI ALARMS

		<u>STATUS</u>	<u>DELAY</u> (Seconds)	<u>SETPOINT</u>
DO/DI Alarm 1	(1):	60779	60780	
DO/DI Alarm 2	(2):	60785	60786	
DO/DI Alarm 3	(3):	60791	60792	
DO/DI Alarm 4	(4):	60797	60798	
DO/DI Alarm 5	(5):	60803	60804	
DO/DI Alarm 6	(6):	60809	60810	
DO/DI Alarm 7	(7):	60815	60816	
DO/DI Alarm 8	(8):	60821	60822	

DO / AI ALARMS

		<u>STATUS</u>	<u>DELAY</u> (Seconds)	<u>SETPOINT</u>
DO/AI Alarm 1	(9):	60830	60831	60827
DO/AI Alarm 2	(10):	60838	60839	60835
DO/AI Alarm 3	(11):	60846	60847	60843
DO/AI Alarm 4	(12):	60854	60855	60851
DO/AI Alarm 5	(13):	60862	60863	60859
DO/AI Alarm 6	(14):	60870	60871	60867
DO/AI Alarm 7	(15):	60878	60879	60875
DO/AI Alarm 8	(16):	60886	60887	60883

AI ALARMS

		<u>STATUS</u>	<u>DELAY</u> (Minutes)	<u>SETPOINT</u>
AI Alarm 1	(17):		63893	
AI Alarm 2	(18):		63894	
AI Alarm 3	(19):		63895	
AI Alarm 4	(20):		63896	
AI Alarm 5	(21):		63897	
AI Alarm 6	(22):		63898	
AI Alarm 7	(23):		63899	
AI Alarm 8	(24):		63900	

VAV CONTROLLER OUTPUT / DI POINTS (Graphics)

Digital Input 1:	1
Digital Input 2:	2
Digital Output 1:	3
Digital Output 2:	4
Digital Output 3:	5
Digital Output 4:	6
Damper Open:	7
Damper Close:	8
Analog Output 1:	9

VAV CONTROLLER ANALOG INPUT POINTS (Graphics)

Room Temperature:	1
Duct Temperature:	2
Damper Position:	3
Air Flow:	4
Cooling Setpoint:	5
Air Flow Setpoint:	6
Cooling Setpoint Offset:	7
Heating Setpoint Offset:	8

TIME SCHEDULES

	<u>ON Hour</u>	<u>ON Minute</u>	<u>OFF Hour</u>	<u>OFF Minute</u>
Output 1:	1510	1511	1512	1513
Output 2:	1514	1515	1516	1517
Output 3:	1518	1519	1520	1521
Output 4:	1522	1523	1524	1525
Output 5:	1526	1527	1528	1529
Output 6:	1530	1531	1532	1533
Output 7:	1534	1535	1536	1537
Output 8:	1538	1539	1540	1541
Output 9:	1542	1543	1544	1545
Output 10:	1546	1547	1548	1549
Output 11:	1550	1551	1552	1553
Output 12:	1554	1555	1556	1557

DIGITAL INPUT OVERRIDE

Function: 1257 0 = Disable 1 = Enable

HAND-OFF-AUTO SWITCH POSITION

Switches 1-4: 1574

Switches 5-8: 1575

Simple mode all automatic value is 170

Simple mode any other value indicates that 1 or more of the switches is NOT in automatic.

Individual Mode: Start with a value of 85 for each group

Output 1: Auto Add = 1 Off Add = 2 Variable 1574

Output 2: Auto Add = 4 Off Add = 8

Output 3: Auto Add = 16 Off Add = 32

Output 4: Auto Add = 64 Off Add = 128

Output 5: Auto Add = 1 Off Add = 2 Variable 1575

Output 6: Auto Add = 4 Off Add = 8

Output 7: Auto Add = 16 Off Add = 32

Output 8: Auto Add = 64 Off Add = 128

LOAD SHED OPERATION

Function: 64790 0 = Disable 1 = Enable

Control Mode: 64791
0 = Off Peak 1
1 = On Peak 1
2 = Off Peak 2
3 = On Peak 2

Demand Setpoint - Summer Off-Peak: 64792 (Control Mode 0)

Demand Setpoint - Summer On-Peak: 64796 (Control Mode 1)

Demand Setpoint - Winter Off-Peak: 64800 (Control Mode 2)

Demand Setpoint - Winter On-Peak: 64804 (Control Mode 3)

Current Setpoint: 555

Shed Level 1: 64782 1 = Shed 0 = Release

Shed Level 2: 64783

Shed Level 3: 64784

Shed Level 4: 64785

Shed Level 5: 64786

Shed Level 6: 64787

Shed Level 7: 64788

Shed Level 8: 64789

GRAPHICS DEMAND METER DATA

Today's Usage: **1 - 4** (Meters 1-4)
Current Estimate: **5 - 8**
Demand Peak: **9 - 12**
Demand Peak Time: **13 - 16**

mitsubishi interface board

Control Variable: **63763** (Set to Value from List Below)

<u>Value</u>	<u>Mode</u>	<u>Setpoint F</u>	<u>Setpoint C</u>
0	Unit Off		
1	Heating	73	23
2	Cooling	73	23
3	Cooling	67	19
4	Cooling	68	20
5	Cooling	69	21
6	Cooling	70	21
7	Cooling	71	22
8	Cooling	72	22
9	Cooling	73	23
10	Cooling	74	23
11	Cooling	75	24
12	Cooling	76	24
13	Cooling	77	25
14	Heating	67	19
15	Heating	68	20
16	Heating	69	21
17	Heating	70	21
18	Heating	71	22
19	Heating	72	22
20	Heating	73	23
21	Heating	74	23
22	Heating	75	24
23	Heating	76	24
24	Heating	77	25

NOTE: When value NOT set to zero fan will run (unit occupied)