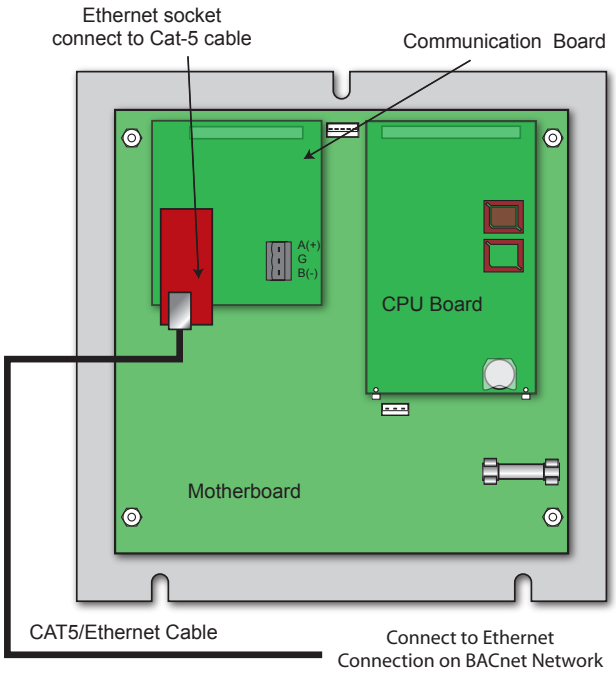
Installation and Operation Manual

Installation or Upgrading Platinum Control to BACnet

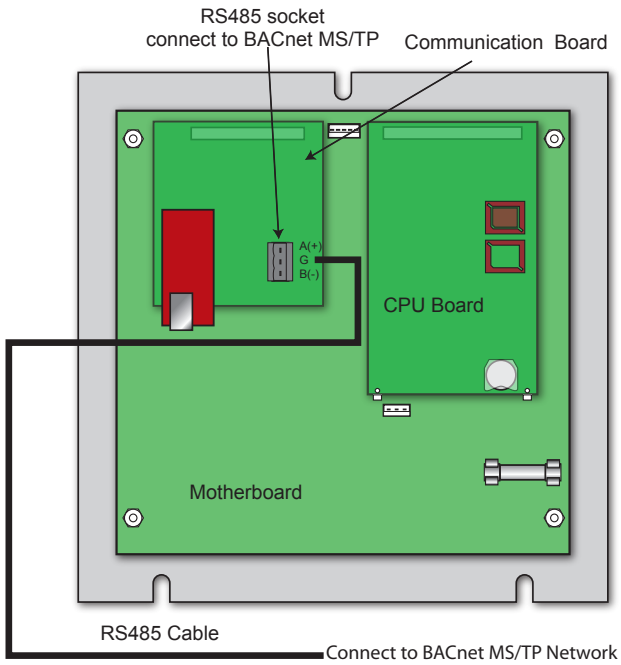
BACnet IP and MS/TP

PLATINUM CONTROL REAR VIEW

PLATINUM PANEL CONNECTED TO BACnet IP Network



PLATINUM PANEL CONNECTED TO BACnet MS/TP Network



⚠ WARNING

The Heat-Timer control are operating controls; they should never be used as primary limits or safety controls. All equipment must have their own certified limits and safety controls required by local codes. The installer must verify proper operation and correct any safety problems prior to the installation of any of the Heat-Timer controls.

HEAT-TIMER® CORPORATION

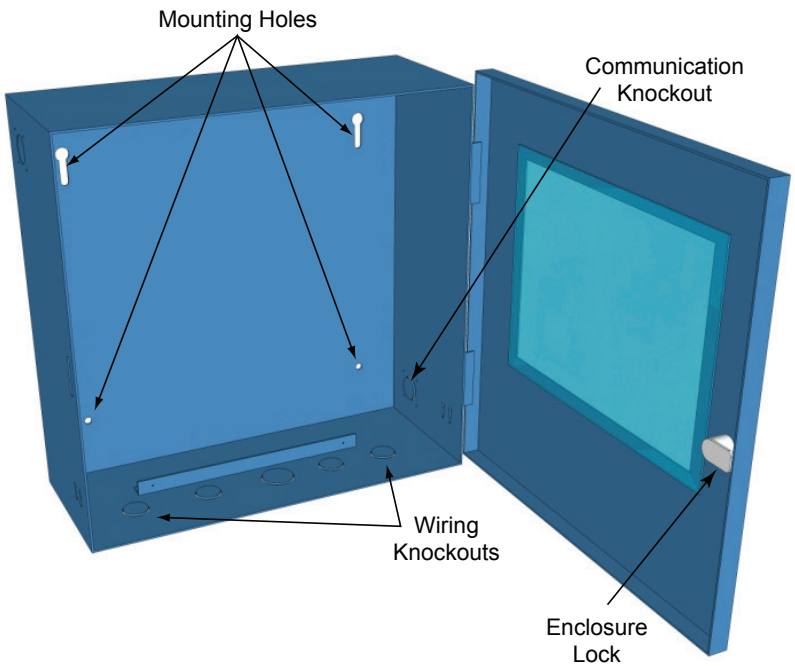
HT# 059082-00B

Contents

HT# 059082-00B

PLATINUM BACNET IP AND MS/TP WIRING

- All non-communication Platinum controls can be upgraded to BACnet communication. This, requires the purchase of BACnet Upgrade Kit for the specific Platinum control.
- The BACnet Communication Board has an Ethernet socket for the BACnet IP and a RS485 socket for the BACnet MS/TP.
- All Platinum controls' operating functions can be set through the BACnet system. However, Startup functions are available through the BACnet system as Read Only. Set all Startup functions locally before configuring the BACnet parameters.



BACNET IP WIRING

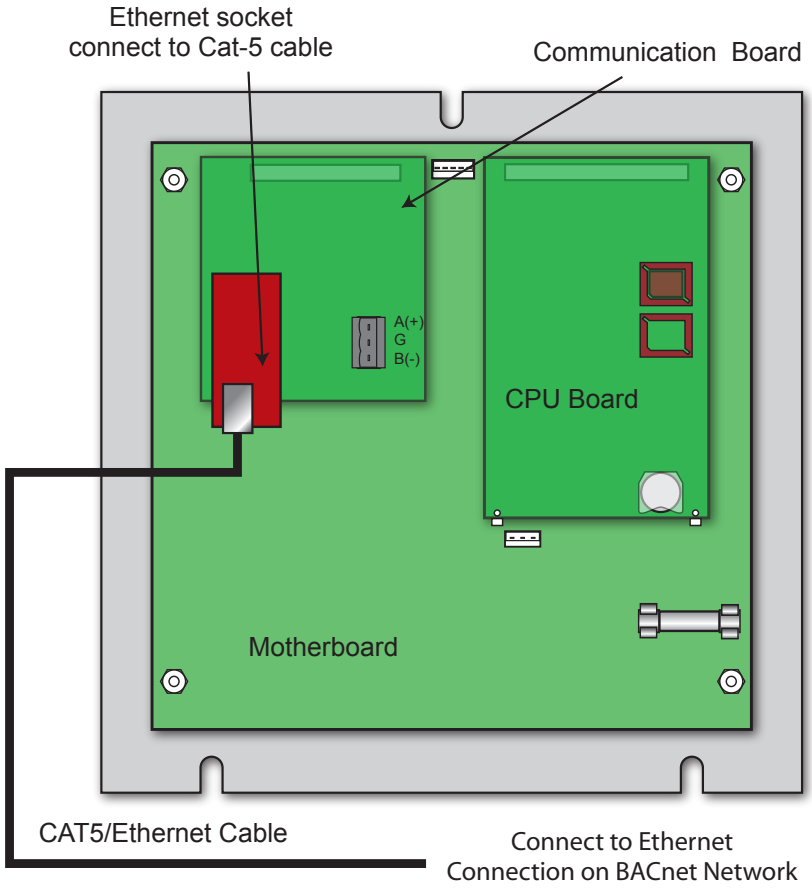
- The Ethernet cable must use the Platinum control's enclosure bottom right side knockout.
- Connect the CAT-5E Ethernet cable coming from the BACnet IP network to the Ethernet RJ45 communication socket on the back of the control's Communication Board.
- For reliable communication, do not run CAT-5E cables more than 150 Ft. CAT-6 cables can have a maximum run of 300 Ft.

⚠ ALERT

A BACnet capable Platinum control will display

-- NETWORK PANEL --

on the 2nd row of the display when in screen saver mode.



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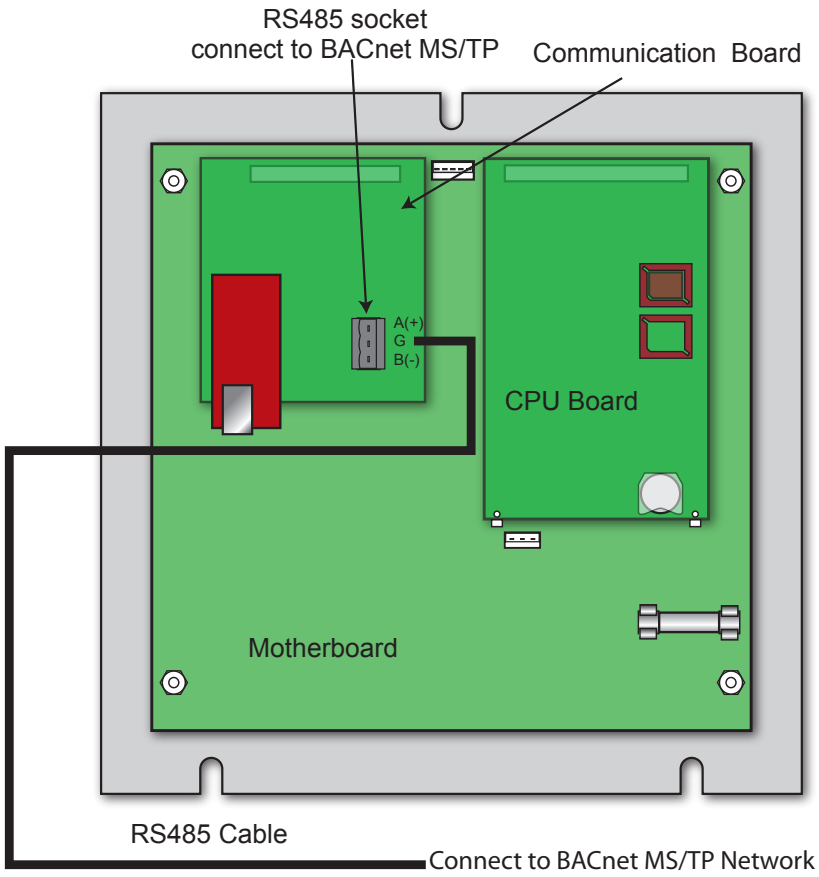
BACNET MS/TP WIRING

- The RS485 cable must use the Platinum control's enclosure bottom right side knockout.
- Connect the MS/TP cable coming from the BACnet MS/TP network to the Ethernet RJ485 communication socket on the back of the control's Communication Board. The Communication Board terminals are labeled 'A (+)', G (Ground), and 'B (-)'.
- Use 18# AWG Twisted Pair cable. The cable length must not exceed 3500 feet.
- The ground RS485 terminal (G) MUST be connected to the BMS RS485 Ground.

⚠ ALERT
DO NOT USE the RS485 Connector on the Motherboard for BACnet communication.
Use the RS485 Connector on the BACnet Communication Board instead.



BACNET COMMUNICATION OPTIONS

SELECT: *MENU/<Maintenance>/Network Settings* **Multi-MOD Platinum Only**
SELECT: *MENU/<Settings>/<More Settings>/<Remote Interface>/Network Settings*

- Before connecting the Platinum control to the BACnet network, the user must set the following parameters according the BACnet Network Administrator's instructions.

```
--NETWORK SETTINGS-
 BACnet ID:        1
 MS/TP Address:    1
 Baud:          9600
▸Switch to IP
```

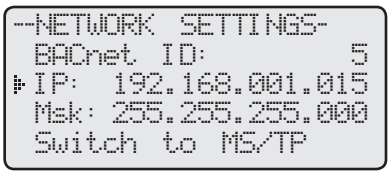
```
--NETWORK SETTINGS-
 BACnet ID:        5
 IP: 192.168.001.015
 Msk: 255.255.255.000
▸Switch to MS/TP
```

SELECTING BACNET IP OR BACNET MS/TP

SELECT: *MENU/.../ Network Settings/Switch to IP or MS/TP*

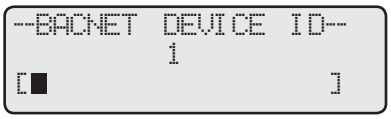
- The same Platinum control can operate within a BACnet IP or BACnet MS/TP network.
- To switch to BACnet IP from the MS/TP menu, select the `Switch to IP` option.
- To switch to BACnet MS/TP from the IP menu, select the `Switch to MS/TP` option.

BACNET IP COMMUNICATION CONFIGURATION



- When purchasing the Platinum control, it must be ordered with BACnet communication or be upgraded to BACnet communication.
- Using a gateway is beneficial when communicating to a proprietary protocol EMS/BMS system. The gateway used must have both drivers, the BACnet IP or MS/TP and the proprietary protocol.

BACNET DEVICE ID



- This is a 32 bit unique number within the BACnet network. It identifies the Platinum control within the BACnet network. It must be provided by the BACnet Network Administrator and entered into the BACnet ID field.

IP AND MASK ADDRESSES

- The Platinum control IP address must be unique within the IP network.
- Both of the IP and Mask addresses must be provided by the Network Administrator.
- When using a DHCP server, leave the IP and Mask Addresses as blank.
- If no DHCP will be used, enter the IP address in the IP field and the Mask in the Msk field. After dialing each octet of the IP or Mask fields, press the *ADJUST/SELECT* button to accept and move on to the next octet.

BACNET IP TROUBLESHOOTING

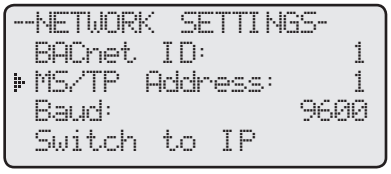
If no communication is the symptom, check the following:

- Check the Ethernet cable length. Cable length must not exceed 150 Ft for CAT-5E or 300 Ft. for CAT-6.
- If the cable was hand made, check the cable continuity across each of the wires.

If intermittent communication is the symptom, check the following:

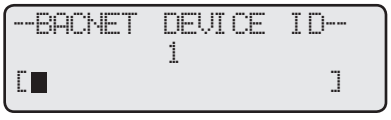
- Check the Ethernet cable length. Cable length must not exceed 150 Ft for CAT-5E or 300 Ft. for CAT-6.

BACNET MS/TP COMMUNICATION CONFIGURATION



- When purchasing the Platinum control, it must be ordered with BACnet communication or be upgraded to BACnet communication.
- Using a gateway is beneficial when communicating to a proprietary protocol EMS/BMS system. The gateway used must have both drivers, the BACnet IP or MS/TP and the proprietary protocol.

BACNET DEVICE ID



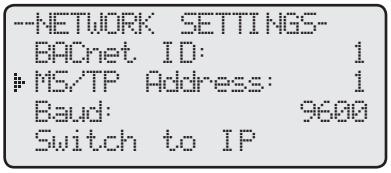
- The Device ID is a unique 32 bit number that identifies the Platinum control within the BACnet network.
- It must be provided by the BACnet Network Administrator.

MS/TP ADDRESS/ MAC ADDRESS

- This is the MS/TP or MAC address on a RS485 network. Its MS/TP range is 1 though 127.
- The MS/TP address must be provided by the Network Administrator.

MS/TP BAUD RATE)

Options: **9600, 19200, 38400** **Default: 9600**



- The Baud determines the speed of communication.
- Both the Platinum control and BMS must use the same Baud rate.
- The communication is fixed to 8 Data Bits, No Parity, and 2 Stop Bits.

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BACNET MS/TP TROUBLESHOOTING

If no communication is the symptom, check the following:

- Make sure that RS485 A and B terminals polarity is correct. Otherwise, there will be no communication.
- Check the Baud rate. Successful communication between the Platinum control and the BMS depends on both being set to the same Baud rate.

If intermittent communication is the symptom, check the following:

- Make sure that the communication cable is of the twisted pair.
- Reliable communication depends on the cable length and Baud rate used. Long cable length may require a lower Baud rate.

PLATINUM BACNET PICS STATEMENT

Product	Model Number	Protocol Revision	Software Version	Firmware Version
Platinum series BACnet Controls	Varies	1.5	tbd	tbd

Vendor	Vendor ID	Address and Phone
Heat-Timer Corporation	248	20 New Dutch Ln.Fairfield, NJ 07004 - (973)575-4004

Product Description
Various controls for heating or cooling applications. Includes Platinum Models MPC, Multi-MOD, HWR, HWRQ, Multi-Mod, SRC. (see http://www.heat-timer.com for more information)

BACnet Standardized Device Profile (Annex L)

Product	Device Profile
Platinum series BACnet Controls	BACnet Application Specific Controller (B-ASC)

Supported BIBBs (Annex K)

Supported BIBBs	BIBB Name
DS-RP-B	Data Sharing-ReadProperty-B
DS-WP-B	Data Sharing-WriteProperty-B
DM-DDB-B	Device Management-Dynamic Device Binding-B
DM-DOB-B	Device Management-Dynamic Object Binding-B
DM-DCC-B	Device Management-DeviceCommunicationControl-B

Standard Object Types Supported

Object Type	Creatable	Deletable
Analog Value	No	No
Binary Value	No	No
Multi-State Value	No	No
Device	No	No

Data Link Layer Options (Annex J)

Product	Data Link	Options
Platinum series BACnet Controls	BACnet/IP	

Segmentation Capability

Segmentation Type	Supported	Window Size (MS/TP product limited to 1)
Able to transmit segmented messages	No	
Able to receive segmented messages	No	

Device Address Binding

Product	Static Binding Supported
Platinum series BACnet Controls	No

Character Sets

Product	Character Sets supported
Platinum series BACnet Controls	ANSI X3.4

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HWR PLATINUM BACNET VARIABLE LIST

HWR OBJ ID	NAME	DESCRIPTION	TYPE♦	UOM	RANGE / STATES / SPECIAL VALUES	READ ONLY
0	BDIFF	Burner Differential	AV	°C(62), °F(64)	0 - 8°C, 0 - 15°F	
100	BOOST	Boost Offset	AV	°C(62), °F(64)	0 - 33°C, 0 - 60°F	
200	BOOSTMODE	Boost Mode	MV		1=Off, 2=Vari Boost,3=Vari Boost & ESD	
300	BPTIME	Bypass Time	AV	Minutes(72)	0 - 2,147,483,647	X
400	BURNER	Burner	BV		0=Off, 1=On	X
500	BYPASSMODE	Bypass Mode	MV		1=Auto, 2=Valve Close, 3=Valve Open / Bypass	
600	CUTOFF	Outdoor Day Cutoff	AV	°C(62), °F(64)	0 - 25°C, 30 - 75°F	
700	DHWMODE	DHW Call Mode	BV		0=No Priority, 1= Priority	
800	DLS	Day Light Saving	BV		0=Enable, 1=Disable	
900	FAULTMODE	Sensor Fault Mode	BV		0=Output On, 1=Output Off	
1000	FCD	Fast Cool Down	BV		0=Minimum Water Temp, 1=Off	
1100	INMODE	Sensor Type	BV		0=°F, 1=°C	
1200	MINTGT	Min Water Temperature	AV	°C(62), °F(64)	21 - 71°C, 70 - 170°F	
1300	ODTEMP	Outdoor Sensor	AV	°C(62), °F(64)	-40 - +122°C, -40 - +250°F	X
1400	ODTRIM	Outdoor Sensor Trim	AV	°C(62), °F(64)	-3 - +3°C, -5 - +5°F	
1500	OFFSET	Offset Temperature	AV	°C(62), °F(64)	-22 - +22°C, -40 - +40°F	
1600	OPMODE	Output Mode	BV		0=Burner, 1=Motorized Valve	
1700	PDATE	Panel Date	AV	Days (70) since 1/1/1981	0 - 2,147,483,647	
1800	PRUNON	Pump Run-On	AV	Minutes(72)	0 - 60	
1900	PTIME	Panel Time	AV	Minutes(72) since 0:00	0 - 1439	
2000	PUMP	Pump	BV		0=Off, 1=On	X
2100	R	Reset Ratio	MV		1=A, 2=B, 3=C, 4=D, 5=E, 6=F, 7=G, 8=H, 9=I, 10=J	
2200 through 2255	SCHEDULES 00 through SCHEDULES 55	Schedules	AV	Minutes(72) since 0:00	0 - 1439, 1440=empty schedule	
2300	SEASON	Season	BV		0=Winter, 1=Summer	
2400	SETBACK	Night Setback Temperature	AV	°C(62), °F(64)	-44 - 0°C, -80 – 0°F	
2500	SHIFT	Day Night Shift	MV		1=ToDay, 2=ToNight, 3=ExtendDay, 4= Resync	
2600	SYSSEN	System Sensor	AV	°C(62), °F(64)	-40 - +122°C, -40 - +250°F	X
2700	SYTRIM	System Sensor Trim	AV	°C(62), °F(64)	-3 - +3°C, -5 - +5°F	
2800	TARG	Calculated Target	AV	°C(62), °F(64)	0 - 116°C, 0 – 240°F	X
2900	VALVE	Motorized Valve	MV		1=Valve inactive, 2=Valve close,3=Valve open	X
3000	ZMAXTGT	Max Target Temperature	AV	°C(62), °F(64)	32 – 116°C, 90 – 240°F	

HWR Platinum Notes

- ♦ AV=analog value(2), BV=binary value(5), MV=multi-state value(19).

Note: The device object id is set through the menus. The device object name is 'HTC_' followed by the panel serial number.

Note: All objects with multiple UOM's depend upon the value of INMODE to determine which one to use.

Note: Use BDIFF and BURNER when OPMODE is set to Burner.
Use VALVE when OPMODE is set to Motorized Valve.

Note: Use BOOST when BOOSTMODE is set to Vari Boost or Vari Boost & ESD.

Note: he HWR has a schedule, which is 7-days, 4 day/night pairs per day. For example: Instance 2200 is the first DAY schedule of Monday; Instance 2201 is the first NIGHT schedule of Monday; Instance 2208 is the first DAY schedule of Tuesday; Instance 2209 is the first NIGHT schedule of Tuesday and so on.

Note: Use HWR installation menu for supplementary information.

HWRQ PLATINUM BACNET VARIABLE LIST

HWRQ OBJ ID	NAME	DESCRIPTION	TYPE♦	UOM	RANGE / STATES / SPECIAL VALUES	READ ONLY
0	BOOST	Boost Offset	AV	°C(62), °F(64)	0 - 33°C, 0 - 60°F	
100	BOOSTMODE	Boost Mode	MV		1=Off, 2=Vari Boost,3=Vari Boost & ESD	
200	BPTIME	Bypass Time	AV	Minutes(72)	0 - 2,147,483,647	X
300 through 331	BSTATUS	Boiler Status	MV		1=Off, 2=On1=Off, 2=Low, 3=High1=Off, 2=Low, 3=Med, 4=High1=Off, 2=Low, 3=MLow, 4=MHigh	X
400	BTYPE	Boiler Type	MV		1=On/Off, 2=2-Stage3=3-Stage, 4=4-Stage	
500	BYPASSMODE	Bypass Mode	BV		0=Auto, 1=Bypass	
600 through 631	COMERR 00 through COMERR 31	Communication Error	BV		0="", 1=C/E	X
700	CONTROL	Control Mode	BV		0=Reset, 1=Set Point	
800	CUTOFF	Outdoor Cut-off	AV	°C(62), °F(64)	0 - 25°C, 30 - 75°F	
900	DHWMODE	DHW Call Mode	BV		0=No Priority, 1= Priority	
1000	DLS	Day Light Saving	BV		0=Enable, 1=Disable	
1100	FAULTMODE	Sensor Fault Mode	BV		0=Stages On, 1=Stages Off	
1200	FCD	Fast Cool Down	BV		0=Minimum Target Temp, 1=Off	
1300	INMODE	Sensor Type	BV		0=°F Sensor, 1=°C Sensor	
1400	LEAD	Lead Boiler	MV		(Refer to Table 2)	
1500 through 1531	LOCK 00 through LOCK 31	Lockout Input	BV		0=(inactive),1=L/O,	X
1600	LOGIC	Logic Mode	BV		0-PID, 1-OSS	
1700	LSTHOLD	Last Stage Hold	AV	°C(62), °F(64)	0 –17°C, 0 - 30°F	
1800	MINRUN	Min Runtime	AV	Minutes(72)	1-60	
1900	MINTGT	Min Water Temp	AV	°C(62), °F(64)	21 - 77°C, 70 - 170°F	
2000 through 2031	MODE 00 through MODE 31	Boiler Mode	MV		1=Auto,2=Standby,3=Off,4=On	
2100	NBOILER	Total Boilers	AV		1 – 32/(BTYPE+1)	
2200	ODTEMP	Outdoor Sensor	AV	°C(62), °F(64)	-40 – 121°C, -40 - +250°F	X
2300	ODTRIM	Outdoor Sensor Trim	AV	°C(62), °F(64)	-3 - +3°C, -5 - +5°F	
2400	OFFSET	Offset Temp	AV	°C(62), °F(64)	-22 - +22°C, -40 - +40°F	
2500	PDATE	Panel Date	AV	Days (70) since 1/1/1981	0 - 2,147,483,647	
2600	PRUNON	Pump Run-On	AV	Minutes(72)	0 - 60	
2700	PTIME	Panel Time	AV	Minutes(72) since 0:00	0 - 1439	
2800	PUMP	Pump	BV		0=Off, 1=On	X
2900	PURGE	Purge Delay	AV	Minutes(72)	0-10	
3000	R	Reset Ratio	MV		1=A, 2=B, 3=C, 4=D, 5=E, 6=F, 7=G, 8=H, 9=I, 10=J	
3100	REACT	Reaction Time	AV	Minutes(72)	1 - 10	
3200	RTMODE	Lead Stage Rotation Mode	MV		1-Time, 2-Manual, 3-FOFO (No FOFO for LOGIC=OSS)	
3300	RTTIME	Periodic Rotation Interval	AV	Hours(71)	1 - 999	

HWRQ OBJ ID	NAME	DESCRIPTION	TYPE♦	UOM	RANGE / STATES / SPECIAL VALUES	READ ONLY
3400 through 3455	SCHEDULES 00 through SCHEDULES 55	Schedules	AV	Minutes(72) since 0:00	0 - 1439, 1440=empty schedule	
3500	SEASON	Season	BV		0=Winter, 1=Summer	
3600	SEQUENCE	Sequence	BV		0=Lo/Hi/Lo/Hi1=Lo/Lo/Hi/Hi	
3700	SETBACK	Night Setback Temp	AV	°C(62), °F(64)	-44 - 0°C, -80 – 0°F	
3800	SETPT	Set point	AV	°C(62), °F(64)	21 - 116°C, 70 - 240°F,	
3900	SHIFT	Day Night Shift	MV		1=Day, 2=Night, 3=Day Extended 90 Minutes, 4=Resync to Schedule	
4000	STBYDLY	Standby Delay	AV	Minutes(72)	1 - 60	
4100	SYSSEN	System Sensor	AV	°C(62), °F(64)	-40 - 121°C, -40 - +250°F	X
4200	SYTRIM	System Sensor Trim	AV	°C(62), °F(64)	-3 - +3°C, -5 - +5°F	
4300	TARG	Calculated Target	AV	°C(62), °F(64)	0 - 116°C, 0 – 240°F	
4400	THROTTLE	Throttle Range	AV	°C(62), °F(64)	1 – 11°C , 2 - 20°F	
4500	ZMAXTGT	Max Target Temp	AV	°C(62), °F(64)	32 – 116°C, 90 – 240°F	

HWRQ Platinum Boiler Type Table

Boiler Type	LEAD – Special value (Up to Total Boilers – 1)
0	0 – 31 ► ‘A’, ‘B’, ‘C’, …, ‘X’, ‘Y’, ‘Z’, ‘a’, ‘b’, ‘c’, ‘d’, ‘e’, ‘f’
1	0 – 15 ► ‘AB’, ‘CD’, ‘EF’, …, ‘WX’, ‘YZ’, ‘ab’, ‘cd’, ‘ef’
2	0 – 9 ► ‘ABC’, ‘DEF’, ‘GHI’, …, ‘STU’, ‘VWX’, ‘abc’, ‘def’
3	0 – 7 ► ‘ABCD’, ‘EFGH’, ‘IJKL’, ‘MNOP’, ‘QRST’, ‘UVWX’, ‘abcd’, ‘efgh’

HWRQ Platinum Notes

♦ AV=analog value(2), BV=binary value(5), MV=multi-state value(19).

Note: The device object id is set through the menus. The device object name is ‘HTC_’ followed by the panel serial number.

Note: All objects with multiple UOM’s depend upon the value of INMODE to determine which one to use.

Note: Use BOOST when BOOSTMODE is set to Vari Boost or Vari Boost & ESD.

Note: BSTATUS range changes with BTYPE. For example: when BTYPE is set to 0, BSTATUS range 0 to 1; when BTYPE is set to 1, BSTATUS range 0 to 2.

Note: Use LSTHOLD, MINRUN, OFFSET, PURGE, R, REACT, STBYDLY when LOGIC set to 0.

Note: Use RTTIME when RTMODE set to 0.

Note: Use THROTTLE when LOGIC set to 1.

Note: Use ZMAXTGT when CONTROL set to 0.

Note: The HWRQ has a schedule, which is 7-days, 4 day/night pairs per day. For example: Instance 3400 is the first DAY schedule of Monday; Instance 3401 is the first NIGHT schedule of Monday; Instance 3408 is the first DAY schedule of Tuesday; Instance 3409 is the first NIGHT schedule of Tuesday and so on.

Note: Use HWRQ installation menu for supplementary information.

MPC PLATINUM BACNET VARIABLE LIST

MPC OBJ ID	NAME	DESCRIPTION	TYPE♦	UOM	RANGE / STATES / SPECIAL VALUES	READ ONLY
0	BOOSTADJ	Vari-Boost Adjustment	AV	none (95)	0.1 - 6.4	
100	BOOSTMODE	Boost Mode	MV		1=BoostOff, 2=ManualBoost, 3=VariDay, 4=VariDayNight	
200	BOOSTTIME	Manual Boost Time	AV	Minutes(72)	0 - 120	
300	BPTIME	Bypass Time	AV	Minutes(72)	0 - 2,147,483,647	X
400	BYPASSMODE	Bypass Mode	BV		0=AUTO, 1=ON	
500	CLENGTH	Cycle Length	AV	Minutes(72)	10 - 240	
600	DADJUST	Day Heat Adjustment	MV		1=A, 2=B, 3=C, 4=D, 5=E, 6=F, 7=G, 8=H, 9=I, 10=J, 11=K, 12=L,13=M, 14=N, 15=O, 16=P	
700	DCUTOFF	Outdoor Day Cutoff	AV	°C(62), °F(64)	-6 - 38°C, 20 - 100°F	
800	DLS	Day Light Saving	BV		0=Enable, 1=Disable	
900	FAULTMODE	Sensor Fault Mode	BV		0=OutputOn, 1=OutputOff	
1000	HDIFF	System Differential	AV	°C(62), °F(64)	2 - 42°C, 3 - 75°F	
1100	INMODE	Sensor Mode	BV		0=°F, 1=°C	
1200	NADJUST	Night Heat Adjustment	MV		1=A, 2=B, 3=C, 4=D, 5=E, 6=F, 7=G, 8=H, 9=I, 10=J, 11=K, 12=L,13=M, 14=N, 15=O, 16=P	
1300	NCUTOFF	Outdoor Night Cutoff	AV	°C(62), °F(64)	-6 - 38°C, 20 - 100°F	
1400	ODTEMP	Outdoor Sensor	AV	°C(62), °F(64)	-40 - +122°C, -40 - +250°F	X
1500	ODTRIM	Outdoor Sensor Trim	AV	°C(62), °F(64)	-3 - +3°C, -5 - +5°F	
1600	OPMODE	Operation Mode	BV		0=Burner/valve, 1=District Steam	
1700	OUTPUT	Output Relay	BV		0=Off, 1=On	X
1800	PDATE	Panel Date	AV	Days (70) since 1/1/1981	0 - 2,147,483,647	
1900	PTIME	Panel Time	AV	Minutes(72) since 0:00	0 - 1439	
2000 through 2055	SCHEDULES00 through SCHEDULES55	Schedules	AV	Minutes(72) since 0:00	0 - 1439, 1440=empty schedule	
2100	SEASON	Season	BV		0=Winter, 1=Summer	
2200	SHIFT	Day/Night Shift	MV		1=To-Day, 2=To-Night, 3=Extend-Day, 4=To-Schedule	
2300	SRUNON	System Run-on	AV	Minutes(72)	0 - 60	
2400	SYSSEN	System Sensor	AV	°C(62), °F(64)	-40 - +122°C, -40 - +250°F	X
2500	SYSTEM	System Relay	BV		0=Off, 1=On	X
2600	SYTRIM	System Sensor Trim	AV	°C(62), °F(64)	-3 - +3°C, -5 - +5°F	
2700	TLOCKOUT	Thermal Lockout Enable	BV		0=OFF, 1=ON	
2800	XYZMIN	District Steam Delay	AV	Minutes(72)	0 - 30	
2900	XYZTEMP	System Setpoint	AV	°C(62), °F(64)	21 - 122°C, 70 - 250°F	
3000	ZMAXTGT	Max Target Temperature	AV	°C(62), °F(64)	32 – 116°C, 90 – 240°F	

MPC Platinum Notes

- AV=analog value(2), BV=binary value(5), MV=multi-state value(19).

Note: The device object id is set through the menus. The device object name is 'HTC_' followed by the panel serial number.

Note: All objects with multiple UOM's depend upon the value of INMODE to determine which one to use.

Note: Use XYZMIN when OPMODE is set to District Steam. Use XYZTEMP, HDIFF and TLOCKOUT when OPMODE is set to Burner/valve.

Note: Use BOOSTADJ when BOOSTMODE is set to VariDay and VariDayNight. Use BOOSTTIME when BOOSTMODE is set to ManualBoost.

Note: The MPC has a schedule, which is 7-days, 4 day/night pairs per day. For example: Instance 2000 is the first DAY schedule of Monday; Instance 2001 is the first NIGHT schedule of Monday; Instance 2008 is the first DAY schedule of Tuesday; Instance 2009 is the first NIGHT schedule of Tuesday and so on.

Note: Use the MPC installation menu for supplementary information.

MPCQ PLATINUM BACNET VARIABLE LIST

MPCQ OBJ ID	NAME	DESCRIPTION	TYPE♦	UOM	RANGE / STATES / SPECIAL VALUES	READ ONLY
0	BOOSTADJ	Vari-Boost Adjustment	AV	none (95)	0.1 - 6.4	
100	BOOSTMODE	Boost Mode	MV		1=Disabled, 2=Manual, 3=Vari, 4=Vari+ESD	
200	BOOSTTIME	Manual Boost Time	AV	Minutes(72)	0 – 120	
300	BPTIME	Bypass Time	AV	Minutes(72)	0 - 2,147,483,647	X
400 through 431	BSTATUS	Boiler Status	MV		1=Off, 2=On1=Off, 2=Low, 3=High1=Off, 2=Low, 3=Med, 4=High1=Off, 2=Low, 3=MLow, 4=MHigh	X
500	BTYPE	Boiler Type	MV		1=On/Off, 2=2-Stage3=3-Stage, 4=4-Stage	
600	BYPASSMODE	Bypass Mode	BV		0=AUTO, 1=ON	
700	CLENGTH	Cycle Length	AV	Minutes(72)	10 - 240	
800 through 831	COMERR00 through COMERR31	Communication Error	BV		0="", 1=C/E	X
900	DADJUST	Day Heat Adjustment	MV		1=A, 2=B, 3=C, 4=D, 5=E, 6=F, 7=G, 8=H, 9=I, 10=J, 11=K, 12=L,13=M, 14=N, 15=O, 16=P	
1000	DCUTOFF	Outdoor Day Cutoff	AV	°C(62), °F(64)	-6 - 38, 20 - 100	
1100	DLS	Day Light Saving	BV		0=Enable, 1=Disable	
1200	FAULTMODE	Sensor Fault Mode	BV		0=OutputOn,1=OutputOff	
1300	INMODE	Sensor Mode	BV		0=°F, 1=°C	
1400	LEAD	Lead Boiler	MV		(Refer to Table 2)	
1500 through 1531	LOCK00 through LOCK31	Lockout Input	BV		0=(inactive),1=L/O,	X
1600	LOGIC	Logic Mode	BV		0-PID	
1700	LSTHOLD	Last Stage Hold	AV	psi(56)	0 – 5 psi	
1800	MINRUN	Min Runtime	AV	Minutes(72)	1-60	
1900 through 1931	MODE00 through MODE31	Boiler Mode	MV		1=Auto,2=Standby,3=Off,4=On	
2000	NBOILER	Total Boilers	AV		1 – 32/(BTYPE+1)	
2100	NADJUST	Night Heat Adjustment	MV		1=A, 2=B, 3=C, 4=D, 5=E, 6=F, 7=G, 8=H, 9=I, 10=J, 11=K, 12=L,13=M, 14=N, 15=O, 16=P	
2200	NCUTOFF	Outdoor Night Cutoff	AV	°C(62), °F(64)	-6 - 38, 20 - 100	
2300	ODTEMP	Outdoor Sensor	AV	°C(62), °F(64)	-40 - +250	X
2400	ODTRIM	Outdoor Sensor Trim	AV	°C(62), °F(64)	-3 - +3, -5 - +5	
2500	OPMODE	Operation Mode	BV		0=Cycle, 1=Set Point	
2600	PDATE	Panel Date	AV	Days (70) since 1/1/1981	0 - 2,147,483,647	
2700	PRETRIM	Pressure Sensor Trim	AV	psi(56)	-3 - 3	

MPCQ OBJ ID	NAME	DESCRIPTION	TYPE♦	UOM	RANGE / STATES / SPECIAL VALUES	READ ONLY
2800	PTIME	Panel Time	AV	Minutes(72) since 0:00	0 - 1439	
2900	PURGE	Purge Delay	AV	Minutes(72)	0-10	
3000	REACT	Reaction Time	AV	Minutes(72)	1 - 10	
3100	RTMODE	Lead Stage Rotation Mode	MV		1-Time	
3200	RTTIME	Periodic Rotation Interval	AV	Hours(71)	1 - 999	
3300 through 3355	SCHEDULES 00 through SCHEDULES 55	Schedules	AV	Minutes(72) since 0:00	0 - 1439, 1440=empty schedule	
3400	SEASON	Season	BV		0=Winter, 1=Summer	
3500	SEQUENCE	Sequence	BV		0=Lo/Hi/Lo/Hi1=Lo/Lo/Hi/Hi	
3600	SETBACK	Night Setback Temp	AV	psi(56)	-10 – 0psi	
3700	SETPT	Set point	AV	Psi(56)	0 – 30psi	
3800	SHIFT	Day/Night Shift	MV		1=ToDay, 2=ToNight, 3=ExtendDay, 4= Resync	
3900	STBYDLY	Standby Delay	AV	Minutes(72)	1 - 60	
4000	SYSPRES	System Pressure Sensor	AV	psi(56)	-5 - +35	X
4100	SRUNON	System Run-on	AV	Minutes(72)	0 - 60	
4200	SYSTEM	System Relay	BV		0=Off, 1=On	X
4300	THROTTLE	Throttle Range	AV	psi(56)	0.5 – 5	
4400	XYZPRESSURE	Heat Establish Pressure	AV	psi(56)	0.5 – 5	

MPCQ Platinum Boiler Type Table

Boiler Type	LEAD – Special value (Up to Total Boilers – 1)
0	0 – 31 ► ‘A’, ‘B’, ‘C’, …, ‘X’, ‘Y’, ‘Z’, ‘a’, ‘b’, ‘c’, ‘d’, ‘e’, ‘f’
1	0 – 15 ► ‘AB’, ‘CD’, ‘EF’, …, ‘WX’, ‘YZ’, ‘ab’, ‘cd’, ‘ef’
2	0 – 9 ► ‘ABC’, ‘DEF’, ‘GHI’, …, ‘STU’, ‘VWX’, ‘abc’, ‘def’
3	0 – 7 ► ‘ABCD’, ‘EFGH’, ‘IJKL’, ‘MNOP’, ‘QRST’, ‘UVWX’, ‘abcd’, ‘efgh’

MPCQ Platinum Notes

♦ AV=analog value(2), BV=binary value(5), MV=multi-state value(19).

Note: The device object id is set through the menus. The device object name is ‘HTC_’ followed by the panel serial number.

Note: All objects with multiple UOM’s depend upon the value of INMODE to determine which one to use.

Note: Use BOOSTADJ, BOOSTMODE, and BOOSTTIME when OPMODE set to 0. Use BOOSTADJ when BOOSTMODE is set to VariDay and VariDayNight. Use BOOSTTIME when BOOSTMODE is set to ManualBoost.

Note: BSTATUS range changes with BTYPE. For example: when BTYPE is set to 0, BSTATUS range 0 to 1; when BTYPE is set to 1, BSTATUS range 0 to 2.

Note: Use DADJUST, FASTCYCLE, NADJUST, and XYZPRESSURE if OPMODE set to 0.

Note: Use SETBACK if OPMODE set to 1

Note: Use LSTHOLD, MINRUN, PURGE, REACT, STBYDLY when LOGIC set to 0.

Note: Use RTTIME when RTMODE set to 0.

Note: Use THROTTLE when LOGIC set to 1.

Note: The MPCQ has a schedule, which is 7-days, 4 day/night pairs per day. For example: Instance 3300 is the first DAY schedule of Monday; Instance 3301 is the first NIGHT schedule of Monday; Instance 3308 is the first DAY schedule of Tuesday; Instance 3309 is the first NIGHT schedule of Tuesday and so on.

Note: Use the MPCQ installation menu for supplementary information.

MULTI-MOD PLATINUM BACNET VARIABLE LIST

Multi-MOD OBJ ID	NAME	DESCRIPTION	TYPE♦	UOM	RANGE / STATES / SPECIAL VALUES	READ ONLY
0 through 19	BTIME 00 through BTIME 19	Stage Run-Time	AV	Minutes(72)	0 - 2,147,483,647	X
100	CO	Outdoor Cutoff Temp	AV	°C(62), °F(64)	-6 - 38°C, 20 - 100°F	
200 through 219	FIRE 00 through FIRE 19	Ignition Level	AV	%(98)	1 - 50	
300	GAIN	Modulation Gain	AV	none (95)	-10 - +10 (non process),1 - 10 (process temp), 0.25 - 20.0(process psi)	
400	HC	Heat/Cool	BV		0=heat, 1=cool	
500	HFHOLD	High Fire Hold	AV	Minutes(72)	0 - 60	
600	INMODE	Sensor Mode	MV		1=°F, 2=°C, 3=15psi, 4=30psi, 5=100psi, 6=200psi, 7=300psi, 8=HWR, 9=Reset °F, 10=Reset °C	X
700	LEAD	Lead Stage	MV		0 - 19 = A - T	
800	LFHOLD	Pre-purge Delay	AV	Minutes(72)	0 - 10	
900 through 919	LOCK 00 through LOCK 19	Lockout Input	MV		1=(inactive), 2=Lockout,3=Comm Error	X
1000	LSTHOLD	Last Stage Hold	AV	Psi (56), °C(62), °F(64)	0 - 3.0psi, 0 - 30psi °C °F	
1100 through 1119	MAN 00 through MAN 19	Manual Modulation Level	AV	%(98)	0 - 100	
1200	MAXSTG	Maximum Stages	AV	none (95)	4 - 20	X
1300	MIN	Minimum Target	AV	°C(62), °F(64)	21 - 68°C, 70 - 180°F	
1400 through 1419	MODE 00 through MODE 19	Stage Mode	MV		1=Auto, 2=Standby, 3=Manual, 4=Off, 5=On	
1500 through 1519	MODST 00 through MODST 19	Modulation Start Point	AV	%(98)	0 - 99	
1600 through 1619	MTRIM 00 through MTRIM 19	Modulation Output Trim	AV	none (95)	-1.0 - +1.0	
1700	ODTEMP	Outdoor Sensor	AV	°C(62), °F(64)	-40 - +122°C, -40 - +250°F	X
1800	ODTRIM	Outdoor Sensor Trim	AV	°C(62), °F(64)	-5 - +5	
1900	OFF	Offset Temp	AV	°C(62), °F(64)	-28 - +28°C, -50 - +50°F	
2000	PDATE	Panel Date	AV	Days (70) since 1/1/1981	0 - 2,147,483,647	
2100	PTIME	Panel Time	AV	Minutes(72) since 0:00	0 - 1439	
2200	R	Reset Ratio	MV		1=1:4, 2=1:3, 3=1:2, 4=1:1.5, 5=1:1.25, 6=1:1, 7=1.25:1, 8=1.5:1, 9=2:1, 10=3:1, 11=4:1	
2300	RTMODE	Lead Stage Rotation Mode	MV		1=Manual, 2=Time, 3=Last-On	

Multi-MOD OBJ ID	NAME	DESCRIPTION	TYPE♦	UOM	RANGE / STATES / SPECIAL VALUES	READ ONLY
2400	RTTIME	Periodic Rotation Interval	AV	Hours(71)	1 - 999	
2500	SB	Setback	AV	Psi (56), °C(62), °F(64)	0 - 7.5psi, 0 - 75psi °C °F	
2600	SETPT	Set point	AV	Psi (56), °C(62), °F(64)	0.0-15.0psi, 0.0-30.0psi, 0-100psi, -40 - +122°C, -40 - +250°F,	
2700	SRUNON	System Run-on	AV	Minutes(72)	0 - 60	
2800	STBYDLY	Standby Delay	AV	Minutes(72)	1 - 60	
2900 through 2919	STONOFF 00 through STONOFF 19	Stage Relay	BV		0=Off, 1=On	X
3000 through 3019	STPCT 00 through STPCT 19	Modulation Level	AV	%(98)	0 - 100	X
3100	SYSONOFF	System Relay	BV		0=Off, 1=On	X
3200	SYSSEN	System Sensor	AV	Psi (56), °C(62), °F(64)	0.0 - 15.0psi, 0.0 - 30.0psi, 0 - 100psi, -40 - +122°C,-40 - +250°F,	X
3300	TARG	Calculated Target	AV	°C(62), °F(64)	21 - 122°C, 70 - 250°F	X

Multi-MOD Platinum Notes

♦ AV=analog value(2), BV=binary value(5), MV=multi-state value(19).

Note: The device object id is set through the menus. The device object name is 'HTC_' followed by the panel serial number.

Note: All objects with multiple UOM's depend upon the value of INMODE to determine which to use. Objects with only °F/°C UOM's default to °F when INMODE is not temperature.

Note: OFF, R and TARG have no effect unless INMODE is set to Reset °F or Reset °C.

Note: When writing to MAN, MODE will change to Manual.

Note: Use Multi-Mod installation menu for supplementary information.

SRC PLATINUM BACNET VARIABLE LIST

SRC OBJ ID	NAME	DESCRIPTION	TYPE♦	UOM	RANGE / STATES / SPECIAL VALUES	READ ONLY
0	BOOSTADJ	Vari-Boost Adjustment	AV	none (95)	0.1 - 6.4	
100	BOOSTMODE	Boost Mode	MV		1=BoostOff, 2=ManualBoost, 3=VariDay, 4=VariDayNight	
200	BOOSTTIME	Manual Boost Time	AV	Minutes(72)	0 - 120	
300	BPTIME	Bypass Time	AV	Minutes(72)	0 - 2,147,483,647	X
400	BURNER	Burner Status	BV		0=Off, 1=On	X
500	BYPASSMODE	Bypass Mode	BV		0=AUTO, 1=ON	
600	CLENGTH	Cycle Length	AV	Minutes(72)	10 – 240	
700	CUTOFFPCT*	Valve % at Cutoff	AV	%(98)	0 – 100	
800	DAYADJUST	Day Heat Adjustment	MV		1=A, 2=B, 3=C, 4=D, 5=E, 6=F, 7=G, 8=H, 9=I, 10=J, 11=K, 12=L,13=M, 14=N, 15=O, 16=P	
900	DAYCUTOFF	Outdoor Day Cutoff	AV	°C(62), °F(64)	-6 - 38°C, 20 - 100°F	
1000	DLS	Day Light Saving	BV		0=Enable, 1=Disable	
1100	FAULTMODE	Sensor Fault Mode	BV		0=OutputOn, 1=OutputOff	
1200	FREEZPCT	Valve % at Freezing	AV	%(98)	0 - 100	
1300	INMODE	Sensor Mode	BV		0=°F, 1=°C	X
1400	MOTORTIME	Motor Time	AV	Seconds(73)	120 - 600	
1500	MVTARGET	Manual Valve Target	AV	%(98)	0 – 100	
1600	NADJUST	Night Heat Adjustment	MV		1=A, 2=B, 3=C, 4=D, 5=E, 6=F, 7=G, 8=H, 9=I, 10=J, 11=K, 12=L,13=M, 14=N, 15=O, 16=P	
1700	NCUTOFF	Outdoor Night Cutoff	AV	°C(62), °F(64)	-6 – 38°C, 20 – 100°F	
1800	ODTEMP	Outdoor Sensor	AV	°C(62), °F(64)	-40 - 122°C, -40 - +250°F	X
1900	ODTRIM	Outdoor Sensor Trim	AV	°C(62), °F(64)	-3 - +3°C, -5 - +5°F	
2000	OFFPCT	Valve Off %	AV	%(98)	0 – 100	
2100	OPMODE	Operation Mode	BV		0=Burner/valve, 1=District Steam	
2200	PAUSETIME	Pause Time	AV	Seconds(73)	0 – 60	
2300	PDATE	Panel Date	AV	Days (70) since 1/1/1981	0 – 2,147,483,647	
2400	PTIME	Panel Time	AV	Minutes(72) since 0:00	0 – 1439	
2500	PULSECLOSE	Pulse Close Enable	BV		0=No, 1=Yes	
2600	PUMP	Vacuum Pump Relay	BV		0=Off, 1=On	
2700 through 2755	SCHEDULES 00 through SCHEDULES 55	Schedules	AV	Minutes(72) since 0:00	0 - 1439, 1440=empty schedule	
2800	SEASON	Season	BV		0=Winter, 1=Summer	

SRC OBJ ID	NAME	DESCRIPTION	TYPE♦	UOM	RANGE / STATES / SPECIAL VALUES	READ ONLY
2900	SHIFT	Day/Night Shift	MV		1=To-Day, 2=To-Night, 3=Extend-Day, 4=To-Schedule	
3000	SYSSEN	System Sensor	AV	°C(62), °F(64)	-40 - 122°C, -40 - +250°F	X
3100	SYTRIM	System Sensor Trim	AV	°C(62), °F(64)	-3 - +3°C, -5 - +5°F	
3200	VALVE	Valve Position	AV	%(98)	0 - 100	X
3300	VCLSOD	Valve Close Overdrive	AV	Seconds(73)	0 - 90	
3400	VCLSTRM	Valve Close Trim	AV	%(98)	0 - 5	
3500	VMODE	Valve Mode	BV		0=Positioning Sensor, 1=Time Based	
3600	VOPNTRM	Valve Open Trim	AV	%(98)	0 - 5	
3700	VTRIM	Valve Trim	AV	%(98)	0 - 20	
3800	XYZMIN	District Steam Delay	AV	Minutes(72)	0 - 30	
3900	XYZTEMP	System Setpoint	AV	°C(62), °F(64)	21 - 122°C, 70 - 250°F	

SRC Platinum Notes

♦ AV=analog value(2), BV=binary value(5), MV=multi-state value(19).

Note: The device object id is set through the menus. The device object name is 'HTC_' followed by the panel serial number.

Note: All variables with multiple UOM's depend upon the value of INMODE to determine which one to use.

Note: Use XYZMIN when OPMODE is set to District Steam. Use XYZTEMP when OPMODE is set to Burner/valve.

Note: Use BOOSTADJ when BOOSTMODE is set to VariDay and VariDayNight. Use BOOSTTIME when BOOSTMODE is set to ManualBoost.

Note: The SRC has a schedule, which is 7-days, 4 day/night pairs per day. For example: Instance 2700 is the first DAY schedule of Monday; Instance 2701 is the first NIGHT schedule of Monday; Instance 2708 is the first DAY schedule of Tuesday; Instance 2709 is the first NIGHT schedule of Tuesday and so on.

Note: Use the SRC installation menu for supplementary information.

WARRANTY

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