

BACnet Points for Single Compressor Water-to-Air Heat Pumps With Hot Gas Reheat Utilizing the FX10 Controller



All volatile (Output) type points will revert to the uncommanded values after a power interruption. These have no limit on the number of writes in a lifetime. The nonvolatile (Value) type points have their values stored in flash memory and they retain their values through a power outage. These have a limited life-time number of write cycles, about 2,000,000. Excessive writes to these will cause controller failure.

Depending on the type of BAS that you are using to integrate the controllers, you will either have an uncommanded value of 254 or 255 for the multistate inputs, outputs and values. For the BAS systems that show 254 as the uncommanded value, you will read/write a "0" for the "Off" command and "1" for the "On" command. For the BAS that shows 255 you will read/write a "1" for the "Off" command and a "2" for the "On" command.

<i>Analog Inputs</i>	<i>Read/Write</i>	<i>Description</i>
A11 Space Temp	Read	Shows the sensor value connected to terminals RS and AIC on the terminal board.
A12 Discharge Air	Read	Shows value of field mounted sensor unless supplied as a factory special.
A13 Effective Clg Setpt	Read	Shows the effective cooling setpoint.
A14 Effective Hgt Setpt	Read	Shows the effective heating setpoint.
A15 nvoHumidity	Read	Shows the space humidity if sensor is connected.
A16 Water Coil Temp	Read	Shows the refrigerant temperature near the coaxial heat exchanger.
A17 Low Temp Limit	Read	Shows the water coil low temp limit value.
A18 ECM Cmd Output	Read	Shows the commanded speed of the ECM blower motor. 0-100%
A19 Alarms Enumerated	Read	Shows a value from 0-9, Refer to alarms table for descriptions.
A110 AO2 Value	Read	Shows the commanded value for analog output 2 override.

Warning: Reverts to "Uncommanded" after a power cycle. These are volatile memory and allow unlimited writes.

<i>Analog Outputs</i>	<i>Read/Write</i>	<i>Description</i>
AO1 Space Setpoint	Write	Adjust the midpoint value between Effective Clg Setpt and Effective Htg Setpt, raises or lowers both from a single command.
AO2 ECM Fan Override	Write	Allows for network control of the ECM blower motor speed.
AO3 AO2 Override	Write	Allows for network control of the analog output 2.

<i>Analog Values</i>	<i>Read/Write</i>	<i>Description</i>
AO4 Space Temp Ovrđ	Write	Allows for the space temp to be overridden, this will supersede any space sensor connected to the analog input.
AO5 Space Humidity Ovrđ	Write	Allows for the space humidity to be overridden, this will supersede any space humidity sensor connected to the analog input.
<p>Warning: These are written in Flash memory and have about 2,000,000 write cycles. Should only be written to by manual writes or through a scheduled writes, not by the automated reset process. EXCESSIVE WRITES WILL CAUSE CONTROLLER FAILURE, THIS WILL NOT BE COVERED UNDER WARRANTY!</p>		
AV1 Occupied Cool	Write	Occupied cooling setpoint, nonvolatile.
AV2 Unoccupied Cool	Write	Unoccupied cooling setpoint, nonvolatile.
AV3 Occupied Heat	Write	Occupied heating setpoint, nonvolatile.
AV4 Unoccupied Heat	Write	Unoccupied heating setpoint, nonvolatile.
AV5 Temporary Occ Time	Write	Used to set the duration of the temporary occupancy timer, Default is 120 Min
AV6 Remote Setpt Span	Write	Allows for adjustment of the setpoint shift span value. Default is 2.7°C
AV7 Remote Setpt Bias	Write	Used to calibrate the setpoint shift center point.
AV8 Space Temp Offset	Write	Allows for adjustment to the zone sensor input, used to calibrate the zone temp reading on the network.
AV9 Dehumidify Setpt	Write	Adjust the dehumidification setpoint for reheat operation.
AV10 Low Temp Limit Adjust	Write	Used to set the low water coil temp limit for freeze detection.
<p>Warning: To allow for AV11, AV12 and AV13 to have direct control of the ECM blower motor, you must first command MV1, MV2, MV3 to "ON" or a 2. Then you can write the desired fan speed percentage to the AV's.</p>		
AV11 Fan Only	Write	Allows for the network to command the ECM blower fan only speed.
AV12 Fan Medium	Write	Allows for the network to command the ECM blower medium speed.
AV13 Fan High	Write	Allows for the network to command the ECM blower high speed.

Warning: If your uncommanded value is 254 then the numeric values listed below will be 1 less than what is described.

<i>Multistate Inputs</i>	<i>Read/Write</i>	<i>Description</i>
MI1 Effective Occupancy	Read	Shows the current occupancy status of the heatpump. 1=Occupied, 2=Unoccupied, 3=Bypass(Temporary Occupancy)
MI2 Mode	Read	Shows the current mode of the heatpump. 1=Auto, 2=Heat, 3=Morning Warm-up, 4=Cool, 5=Night Purge, 6=Pre Cool, 7=Off(Shutdown), 8=Test, 9=Emergency Heat
MI3 Fan Cmd Status	Read	Shows the commanded status of the fan. 1=Off, 2=On
MI4 Comp Cmd Status	Read	Shows the commanded status of compressor. 1=Off, 2=On
MI5 Comp Hi Capacity Cmd	Read	Shows the commanded status of high capacity compressor valve. 1=Off, 2=On
MI6 Reversing Valve	Read	Shows the commanded position of the reversing valve. 1=Heating, 2=Cooling
MI7 Accessory 1 Output	Read	Shows the current state of the ACC 1(X1) output. 1=Off, 2=On
MI8 Accessory 2 Output	Read	Shows the current state of the ACC 2(X2) output. 1=Off, 2=On
MI9 Digital Input 12	Read	Shows the current state of the digital input 12, requires a field installed current switch or a factory special for this input to work. 1=Off, 2=On
MI10 Alarm Status	Read	Shows the current state of the alarm status output. 1=Off, 2=On
MI11 BO5 Output	Read	Shows the current state of the BO5 output. 1=Off, 2=On
MI12 Reheat Output	Read	Shows the current state of the BO-9 output. 1=Off, 2=On
MI13 Dehumidistat Status	Read	Shows the current state of the dehumidistat input. 1=Open, 2=Closed

Warning: If your uncommanded value is 254 then the numeric values listed below will be 1 less than what is described.

<i>Multistate Outputs</i>	<i>Read/Write</i>	<i>Description</i>
MO1 Occupancy Command	Write	Allows for network command to the occupancy input of the heatpump. 1=Occupied, 2=Unoccupied, 3=Bypass,4=Standby
MO2 Fan Command	Write	Allows for network command equivalent of a thermostat 'G' call. 1=Off, 2=On
MO3 Compressor Cmd(Y1)	Write	Allows for network command equivalent of a thermostat 'Y1' call. 1=Off, 2=On

© 2013 The manufacturer has a policy of continual product research and development and reserves the right to change design and specifications without notice.

MO4 Compressor Cmd(Y2)	Write	Allows for network command equivalent of a thermostat 'Y2' call. 1=Off, 2=On
MO5 Reversing Vlv Cmd	Write	Allows for network command equivalent of a thermostat 'O' call. 1=Heat, 2=Cooling
MO6 Emergency Override	Write	Allows for network command to put the unit in emergency shutdown. 1=Normal, 5=Shutdown
MO7 Alarm Reset	Write	Allows for remote reset of manual reset alarms, must write to a 2 then back to a 1 for reset to take effect.
MO8 Emergency Heat BO5	Write	Allows for network control of binary output 5. 1=Off, 2=On
MO9 Dehum Cmd	Write	Allows for network control of the dehumidistat input. 1=Off, 2=On

Warning: If your uncommanded value is 254 then the numeric values listed below will be 1 less than what is described.

<i>Multistate Values</i>	<i>Read/Write</i>	<i>Description</i>
MV1 SW1	Write	Used to command on ECM switch 1, then use AV11 to write a percentage between 0-100 to control the fan only speed of ECM blower. 1=Off, 2=On
MV2 SW2	Write	Used to command on ECM switch 2, then use AV12 to write a percentage between 0-100 to control the medium speed of ECM blower. 1=Off, 2=On
MV3 SW3	Write	Used to command on ECM switch 3, then use AV13 to write a percentage between 0-100 to control the high speed of ECM blower. 1=Off, 2=On
MV4 Reheat Ena/Dis	Write	Allows a network command to disable and enable the logic that controls reheat. If commanded off, reheat will never operate. 1=Off, 2=On
MV5 Unocc Setpt Ena/Dis	Write	Allows a network command to enable the unoccupied humidity setpoint for the dehumidification cycle. Factory default is set to disabled. 1=Off, 2=On

© 2013 The manufacturer has a policy of continual product research and development and reserves the right to change design and specifications without notice.



PROFXENV-RH-00 Alarm Table	
#	Description
0	No Alarm
1	Condensate Detected
2	Compressor High Discharge Pressure
3	Compressor Low Suction Pressure
4	Freeze Protection
8	Faulty Freeze Sensor Alarm
9	Loss of Charge