BACnet Protocol Implementation Conformance Statement

Date: 14 February 2025
Vendor Name: WindowMaster International A/S
Product Name: CompactSmoke™ / Comfort
Product Model Number: WSC 3xx / WCC 3xx NVE
Firmware Revision: v1
BACnet Protocol Version: 1
BACnet Protocol Revision: 19

Product Description:

This PICS covers WindowMaster's CompactSmoke™ series of smoke control panels (WSC 3xx) and the comfort series control panels (WCC 3xx) with NV Embedded.

The WxC 3xx include a LCD with touch used to manipulate relevant device parameters such as BACnet Device ID's, UDP port number, baud rate and Max_Master.

The WxC 3xx can be configured with a motor module. The BACnet objects support the maximum configuration of 10 motor lines. For those objects where the motor module is not present will the object be indicated Out Of Service.

BACnet Standardized Device Profile (Annex L):

- ☐ BACnet Operator Workstation (B-OWS)
- ☐ BACnet Building Controller (B-BC)
- ☐ BACnet Advanced Application Controller (B-AAC)
- ☐ BACnet Application Specific Controller (B-ASC)
- ☐ BACnet Smart Sensor (B-SS)
- ☒BACnet Smart Actuator (B-SA)

BACnet Interoperability Building Blocks Supported (Annex K):

BIBB	Description
DS-RP-B	Data Sharing – ReadProperty - B
DS-RPM-B	Data Sharing – ReadPropertyMultiple - B
DS-WP-B	Data Sharing – WriteProperty - B
DS-COV-B	Data Sharing – Change of value – B
DM-DDB-B	Device Management – Dynamic Device Binding – B
DM-DOB-B	Device Management – Dynamic Object Binding – B

Segmentation Capability:

- ☐ Segmented requests supported Window Size _____
- ☐ Segmented responses supported Window Size _____

Standard Object Types Supported:
Object instantiation is static; i.e. objects cannot be created or deleted. Refer to table at end of this document for object details.

	Device	Analog			Binary			BitString
Property		**In**	**Out**	**Value**	**In**	**Out**	**Value**	**(In)**
Object Identifier	R	R	R	R	R	R	R	R
Object Name	R	R	R	R	R	R	R	R
Object Type	R	R	R	R	R	R	R	R
Description	R	R	R	R	R	R	R	R
System Status	R							
Vendor Name	R							
Vendor Identifier	R							
Model Name	R							
Firmware Revision	R							
Application Software Version	R							
Protocol Version	R							
Protocol Revision	R							
Protocol Services Supported	R							
Protocol Object Types Supported	R							
Object List	R							
Max APDU Length	R							
Segmentation Support	R							
APDU Timeout	R							
Number APDU Retries	R							
Device Address Binding	R							
Database Revision	R							
Active COV Subscriptions	R							
Max master[1]	R							
Max Info Frames[1]	R							
Present Value		R	W	W	R	W	W	R
Status Flags		R	R	R	R	R	R	R
Event State		R	R	R	R	R	R	R
Reliability		R		R	R			R
Out Of Service		R	R	R	R	R	R	R
Units		R	R	R				
Min Pres Value		R	R	R				
Max Pres Value		R	R	R				
Priority Array			R			R		
Relinquish Default			R			R		
COV Increments		R		R				
Polarity					R	R		
Inactive Text					R	R		
Active Text					R	R		
Bit Text								R

[1] Only MS/TP

Analog Output Objects Instance Summary:

ID	Objects Name	Description	Unit	Present Value Access
AO 1..10	Max_position_motor_group_1..10	Sets the maximum allowed position for motor group <n>	Percent	C
AO 11..20	Auto_position_motor_group_1..10	Sets the target position with auto. speed for motor group <n>	Percent	C
AO 21..22	Max_position_motor_line_S1_X1..2	Sets the maximum allowed position for motor line S1 X<n>	Percent	C
AO 23..30	Max_position_motor_line_S2_X1..8	Sets the maximum allowed position for motor line S2 X<n>	Percent	C
AO 31..32	Auto_position_motor_line_S1_X1..2	Set the target position of motor line S1 X<n> using auto. speed	Percent	C
AO 33..40	Auto_position_motor_line_S2_X1..8	Set the target position of motor line S2 X<n> using auto. speed	Percent	C
A0 41..50	Minimum_position_motor_group_1..10	Set the minimum position of motor group <n>	Percent	C
AO 51..52	Blind_slat_position_motor_line_S1_X1..2	Set the blind slat angle on motor line S1 X<n>	Percent	C
AO 53..60	Blind_slat_position_motor_line_S2_X1..8	Set the blind slat angle on motor line S2 X<n>	Percent	C

Analog Input Objects Instance Summary:

ID	Objects Name	Description	Unit	Present Value Access
AI 1..2	Actual_position_motor_line_S1_X1..2	Contains the actual position for line S1 X<n>	Percent	R, COV
AI 3..10	Actual_position_motor_line_S2_X1..8	Contains the actual position for line S2 X<n>	Percent	R, COV
AI 11..12	Actual_max_position_motor_line_S1_X1..2	Contains the actual max position for motor line S1 X<n>	Percent	R, COV
AI 13..20	Actual_max_position_motor_line_S2_X1..8	Contains the actual max position for motor line S2 X<n>	Percent	R, COV
AI 21..30	Alarm_wind_direction_smoke_zone_1..10	Contains the actual alarm wind direction for smoke zone <n>		R, COV
AI 31	Building_mode	Contains the building mode 0: Occupied 1: Unoccupied 2: Occupied, secured		R, COV
AI 32..41	Temperature_in_NV_controller_1..10	Actual temperature in NV controller <n>	℃ / ℉	R, COV
AI 42..51	CO2_in_NV_controller_1..10	Actual CO_2 level in NV controller <n>	ppm	R, COV
AI 52..61	Relative_humidity_in_NV_controller_1..10	Actual relative humidity level in NV controller <n>	Percent	R, COV
AI 62..71	NV_Actual_ventilation_temperature_setpoint_1..10	Actual ventilation temperature setpoint in NV controller <n>	℃ / ℉	R, COV
AI 72..81	NV_Actual_heating_temperature_setpoint_1..10	Actual heating temperature setpoint in NV controller <n>	℃ / ℉	R, COV

ID	Objects Name	Description	Unit	Present Value Access
AI 82..91	NV_Ventilation_status_1..10	Actual ventilation status in NV controller <n> 0: Unknown 1: Windows fixed closed 2: Windows closed, all data missing 3: Window opening limited due to bad weather 4: Windows closed, only weather data missing 5: Windows closed due to hot outdoor conditions 6: Windows closed due to low indoor temperature 7: Automatic vent. off (Only hand and scheduled pulses) 8: Only hand operation due to missing room data 9: Only hand operation due to hot outdoor conditions 10: Demand driven pulse ventilation 11: Pulse ventilation due to hot outdoor conditions 12: Ventilation controlled by temperature 13: Ventilation controlled by temperature during night 14: Venting active 15: Trickle ventilation 16: Only hand operation due to low outdoor temperature		R, COV
AI 91..101	NV_Comfort_status_1..10	Actual contort status in NV controller <n> 0: Auto 1: Comfort 2: Standby 3: Economy 4: Building Protection		R, COV
AI 102..111	Mech_vent_FutureVent_1..10	FutureVent™ control value		R, COV
AI 112..121	Mech_vent_value_1..10	Mechanical ventilation value	Percent	R, COV
AI 122..131	Mech_vent_ZoneVent_Air_supply_temperature_1..10	ZoneVent™ air supply temperature	℃ / ℉	R, COV
AI 132..141	Heating_Valve_1..10	Heating valve value	Percent	R, COV
AI 142	Weather_temperature	Weather station temperature	℃ / ℉	R, COV
AI 143	Weather_rain_intensity	Weather station rain intensity	mm/hour	R, COV
AI 144	Weather_relative_humidity	Weather station relative humidity	Percent	R, COV
AI 145	Weather_humidity	Weather station absolute humidity	g/m^3	R, COV
AI 146	Weather_dew_point	Weather station dew point	℃ / ℉	R, COV
AI 147	Weather_status_sensor	Weather station sensor status		R, COV
AI 148	Weather_wind_status	Weather status wind sensor status		R, COV
AI 149..158	Actual_temperature_setpoint_NV_controller_1	Actual temperature setpoint in NV controller <n>	℃ / ℉	R, COV
AI 159..160	Blind_actual_slat_position_motor_line_S1_X1..2	Actual blind slat angle on motor line S1 X<n>	Percent	R, COV
AI 161..168	Blind_actual_slat_position_motor_line_S2_X1..8	Actual blind slat angle on motor line S2 X<n>	Percent	R, COV
AI 169..178	Status_sun_controller_1..10	Status of Sun controller <n> 0: Uninitialised 1: Missing input data 2: Night 3: Night, down 4: Up 5: Down		R, COV

Analog Value Objects Instance Summary:

ID	Objects Name	Description	Unit	Present Value Access
AV 1..10	Hand_position_motor_group_1..10	Set the target position of motor group <n> using hand speed	Percent	W
AV11..20	Hand_relative_position_motor_group_1..10	Set the hand relative position for motor group <n>	Percent	W
AV 21..22	Hand_position_motor_line_S1_X1..2	Set the target position of motor line S1 X<n> using hand speed	Percent	W
AV 23..30	Hand_position_motor_line_S2_X1..8	Set the target position of motor line S2 X<n> using hand speed	Percent	W
AV 31..32	Hand_relative_position_motor_line_S1_X1..2	Set the relative position of motor line S1 X<n> using hand speed	Percent	W
AV 33..40	Hand_relative_position_motor_line_S2_X1..8	Set the relative position of motor line S2 X<n> using hand speed	Percent	W
AV 41	Wind_speed	Set the wind speed, used for safety	m/s	W
AV 42	Wind_speed_filtered	Set the filtered wind speed, use for NV	m/s	W
AV 43	Wind_direction	Set the wind direction	Degrees Angular	W
AV 44	Wind_direction_filtered	Set the filtered wind direction, used for NV	Degrees Angular	W
AV 45	Building_mode	Set the building mode 0: Occupied 1: Unoccupied 2: Occupied, secured		W
AV 46..55	Wind_speed_NV_controller_1..10	Set the wind speed in NV controller <n>, used for safety	m/s	W
AV 56..65	Wind_speed_filtered_NV_controller_1..10	Set the filtered wind speed in NV controller <n>, use for NV	m/s	W
AV 66..75	Temperature_NV_controller_1..10	Set the actual temperature in NV controller <n>	℃ / ℉	W
AV 76..85	CO2_NV_controller_1..10	Set the actual CO_2 level in NV controller <n>	Ppm	W
AV 86..95	Relative_humidity_NV_controller_1..10	Set the actual relative humidity in NV controller <n>	%	W
AV 96..105	Outdoor_temperature_in_NV_controller_1..10	Set the actual outdoor temperature used in NV controller <n>	℃ / ℉	W
AV 106..115	NV_base_temperature_setpoint_NV_controller_1..10	Set the base temperature setpoint in NV controller <n>	℃ / ℉	W
AV 116..125	NV_heating_cooling_deadband_NV_controller_1..10	Set the dead band between heating and cooling in NV controller <n>	K	W
AV 126..135	NV_heating_standby_offset_NV_controller_1..10	Sets the heating ‘standby’ offset in NV controller <n>	K	W
AV 136..145	NV_heating_night_offset_NV_controller_1..10	Sets the heating ‘night’ offset in NV controller <n>	K	W
AV 146..155	NV_cooling_standby_offset_NV_controller_1..10	Sets the cooling ‘standby’ offset in NV controller <n>	K	W
AV 156..165	NV_cooling_night_offset_NV_controller_1..10	Sets the cooling ‘night’ offset in NV controller <n>	K	W
AV 166..175	Mech_vent_temperature_setpoint_offset_1..10	Sets the mechanical ventilation setpoint in NV controller <n>	℃ / ℉	W
AV 176..177	Hand_timer_motor_line_S1_X1..2	Temporary hand timer for motor line S1X<n>	Minutes	W
AV 178..185	Hand_timer_motor_line_S2_X1..8	Temporary hand timer for motor line S2X<n>	Minutes	W
AV 186..195	Actual_illumination_sun_controller_1..10	Set the illumination level in sun controller <n>		W

Binary Output Objects Instance Summary:

ID	Objects Name	Description	Active / inactive Text	Present Value Access
BO 1..2	Close_motor_line_S1_X1..2	Set that motor line S1 X<n> must be closed	Close. All motors on the motor line must be closed / No close	C
BO 3..10	Close_motor_line_S2_X1..8	Set that motor line S2 X<n> must be closed	Close. All motors on the motor line must be closed / No close	C
BO 11..20	NV_Presence_detection_1..10	Set a presence detection event in NV controller <n>.	Idle. No presence detection. / Presence detection. Trigger the occupancy timer.	C
BO 21..30	NV_Disable_automatic_1..10	Set that automatic control is disabled in NV controller <n>	Idle. / Disable auto. NV control. Disable the NV controller.	C
BO 31..40	NV_Force_winter_1..10	Set that NV controller <n> is force in winter mode	Idle. / Force winter. Force the NV controller in winter mode.	C
BO 41..50	NV_Ventilate_1..10	Set that a pulse ventilation must be performed in NV controller <n>	Idle. / Ventilate trigger. Trigger a ventilation sequence in the NV controller.	C
BO 51..60	NV_Comfort_1..10	Set that ‘comfort’ must be active used in NV controller <n>	Idle. / Comfort. Set the NV controller in comfort mode.	C
BO 61..70	NV_Night_1..10	Set that ‘night’ must be active used in NV controller <n>	Idle. / Night. Set the NV controller in night mode.	C
BO 71..80	Mech_vent_override_1..10	Set override in mechanical ventilation controller <n>	Idle. / Mevh. vent. override. Set the mech. vent. controller in override mode to manually set the output.	C
BO 81..90	Heating_override_1..10	Set override in heating controller <n>	Idle. / Heating override. Set the heating controller in override mode to manually set the heating output.	C

Binary Input Objects Instance Summary:

ID	Objects Name	Description	Active / inactive Text	Present Value Access
BI 1..2	Closed_motor_line_S1_X1..2	Indicates closed / not closed status for actuators on motor line S1 X<n>	Closed. All motors on the motor line are closed / Not closed. One or more motors on the motor line are open	R, COV
BI 3..10	Closed_motor_line_S2_X1..8	Indicates closed / not closed status for actuators on motor line S2 X<n>	Closed. All motors on the motor line are closed / Not closed. One or more motors on the motor line are open	R, COV

ID	Objects Name	Description	Active / inactive Text	Present Value Access
BI 11..12	Error_motor_line_S1_X1..2	Indicates error condition for motor line S1 X<n>	Error. An error was detected on the motor line / No error. No errors detected on the motor line	R, COV
BI 13..20	Error_motor_line_S2_X1..8	Indicates error condition for motor line S2 X<n>	Error. An error was detected on the motor line / No error. No errors detected on the motor line	R, COV
BI 21..30	Alarm_smoke_zone_1..10	Smoke zone <n> alarm condition.	Alarm active in the smoke zone / No alarm active in the smoke zone	R, COV
BI 31..40	Error_smoke_zone_1..10	Smoke zone <n> error	Error. An error was detected on the smoke zone / No error. No errors detected on the smoke zone	R, COV
BI 41	Error_system	System error status	System error. One or more error in the system / System ok. No errors active in the system	R, COV
BI 42	Error_nv_controllers	One or more NV controllers has an error	System ok. No NV controllers with error. / NV controller error. At least one NV controller has an error.	R, COV
BI 43	Common_mech_vent	Fan is active in one or more NV controllers	Mech. vent. inactive. No mech. vent. controller has an active output. / Mech. vent. active. One or more mech. vent. controllers has an active output.	R, COV
BI 44	Common_heating	Heating is active in one or more NV controllers	Heating inactive. No heating controller has heating demand. / Heating active. One or more heating controller has heating demand.	R, COV
BI 45..54	NV_Occupancy_1..10	NV controller <n> is occupied	Unoccupied. The NV controller is unoccupied. / Occupied. The NV controller is occupied.	R, COV
BI 55..64	NV_Winter_1..10	NV controller <n> is in winter mode	Summer. The NV controller is in summer mode. / Winter. The NV controller is in winter mode.	R, COV
BI 65..74	NV_Lighting_1..10	The light is on in NV controller <n>	Lighting off. The NV controller has ligting off. / Lighting on. The NV controller has lighting on.	R, COV
BI 75..84	NV_Error_status_1..10	NV controller <n> has an error	OK. No errors in the NV controller. / Error. The NV controller has an error.	R, COV
BI 85..94	Mech_vent_1..10	The mechanical ventilation is active in mechanical ventilation controller <n>	Mech. vent. inactive. The mech. vent. controller output is not active. / Mech. vent. active. The mech. vent. controller has an active output.	R, COV
BI 95..104	Heating_1..10	The heating is active in heating controller <n>	Heating inactive. The heating controller output is not active. / Heating active. The heating controller has an active output.	R, COV

ID	Objects Name	Description	Active / inactive Text	Present Value Access
BI 105	Weather_raining	Raining signal from weather station	No rain. The rain sensor is not active. / Raining. The rain sensor is active.	R, COV

Binary Value Objects Instance Summary:

ID	Objects Name	Description	Active / inactive Text	Present Value Access
BV1..10	Connection_1..10	Object that can be associated to an input or output of the system		R/W

Bit String Value Objects Instance Summary:

ID	Objects Name	Description	Bit_Text	Present Value Access
BS 1..10	Status_motor_group_1..10	Indicate status of the motor group <n>	Bit 0: 1 = Error. One or more motor lines associated with the motor groups have an error. Bit 1: 1 = Closed. All motor lines associated with the motor group is closed. Bit 2: 1 = Max. wind speed active. The configured max. wind speed of the motor group is exceeded. Bit 3: 1 = Safety active. The safety function of the motor group is active. Bit 4: 1 = Open active. One or more motor line in the group is open more than the configured threshold. Bit 5: 1 = Alarm. The motor group is in smoke alarm state. Bit 6: 1 = Service. One or more motor lines calls for service. Bit 7: 1 = KNX error The KNX module or bus has an error.	R

ID	Objects Name	Description	Bit_Text	Present Value Access
BS 11..12	Status_motor_line_S1_X1..2	Indicate status for motor line S1 X<n>	Bit 0: 1 = Communication error. Communication error detected while communicating with one or more motors. Only applicable for MotorLink™ output. Bit 1: 1 = Cable error. Broken cable detected. Only applicable for standard motor output. Bit 2: 1 = No. of. motors error. Expected no. of motors differs from the number of motors found on the motor line. Bit 3: 1 = Team size error. Team size value in the motors does not match. Bit 4: 1 = Motor parameter error. Key motor parameters differ between the motors. Bit 5: 1 = No. of locking motors error. Expected no of WMB motors differ from number found. Bit 6: 1 = Locking motors team size error. Team size value in the locking motors does not match. Bit 7: 1 = Locking motor parameter error. Key locking motor parameters differs between the locking motors. Bit 8: 1 = Closed. All actuators on motor line are closed. Bit 9: 1 = Locked. All locking motors are locked. If no locking motors are present the bit has the same value as "Closed". Bit 10: 1 = Position error. The actual position differs from the expected position. Bit 11: 1 = Motor moving. Motors are moving. Bit 12: 1 = Motor over current. The motors reported a too high current. Bit 13: 1 = Output over current. A too high current detected on the motor line output. Bit 14: 1 = Hand grace timer active. An automatic operation has started the grace timer. Bit 15: 1 = Hand timer active. A hand operation has started the temporary hand timer. Bit 16: 1 = Open. The actuators are more open than a threshold. Bit 17: 1 = Power supply overcurrent. Accumulator switch opened due to overcurrent. Bit 18: 1 = Motor safety edge sensor input active. Bit 19: 1 = Motor ID 1 communication error. Bit 20: 1 = Motor ID 2 communication error. Bit 21: 1 = Motor ID 3 communication error. Bit 22: 1 = Motor ID 4 communication error. Bit 23: 1 = Motor ID 5 communication error. Bit 24: 1 = Motor ID 6 communication error. Bit 25: 1 = Communication warning. Bit 26: 1 = Watchdog timeout. Bit 27: 1 = The motor line calls for service.	R
BS 13..20	Status_motor_line_S2_X1..8	Indicate status for motor line S2 X<n>	Please see BS 11	R

ID	Objects Name	Description	Bit_Text	Present Value Access
BS 21..30	Status_smoke_zone_1..10	Indicate status of smoke zone <n>	Bit 0: 1 = Line A alarm active. Bit 1: 1 = Line B alarm active. Bit 2: 1 = Reset active. Bit 3: 1 = Line C alarm active. Bit 4: 1 = Line D alarm active. Bit 5: 1 = Line E alarm active. Bit 6: 1 = Line F alarm active. Bit 7: 1 = Line A error. Bit 8: 1 = Line B error. Bit 9: 1 = Line C error. Bit 10: 1 = Line D error. Bit 11: 1 = Line E error. Bit 12: 1 = Line F error. Bit 13: 1 = Break glass unit error. Error effecting the break glass units associated with the smoke zone. Bit 14: 1 = Motor group error. Error effecting the motor groups associated with the smoke zone. Bit 15: 1 = Master / slave error. Error effecting a master or slave connection on the smoke zone. Bit 16: 1 = Power supply error. No mains power or PS module error. Bit 17: 1 = Mains power warning. Mains power has been missing for less than (*) minutes. Bit 18: 1 = Weather data error.	R
BS 31	Status_system	Indicates the detailed status of the system.	Bit 0: 1 = Alarm. Alarm is active in one or more smoke zone. Bit 1: 1 = System error. Errors active in the system. Bit 2: 1 = Mains error. Mains power is ok. The first (*) min. of a mains failure is shown as a warning. Bit 3: 1 = Mains warning. Mains power failure for less than (*) minutes. Bit 4: 1 = Accumulator error. An accumulator error is detected. Bit 5: 1 = Weather data error. Bit 6: 1 = Time for service. The system maintenance timer is expired.	R

(*) is the value of parameter 1.9.0.38 “Mains error time”.

Present Value Access types Legend: R = Read-only, W (Note1) = Writeable, C = Commandable. Commandable values supports priority arrays 16 relinquish defaults.

Data Link Layer Options:

☒ BACnet IP, (Annex J)
☐ BACnet IP, (Annex J), Foreign Device
☐ ISO 8802-3, Ethernet (Clause 7)
☐ ANSI/ATA 878.1, 2.5 Mb. ARCNET (Clause 8)
☐ ANSI/ATA 878.1, RS-485 ARCNET (Clause 8), baud rate(s): _____
☒ MS/TP master (Clause 9), baud rate(s): 9600, 19200, 38400, 57600, 76800, 115200
☐ MS/TP slave (Clause 9), baud rate(s): _____
☐ Point-To-Point, EIA 232 (Clause 10), baud rate(s):_____
☐ Point-To-Point, modem, (Clause 10), baud rate(s): _____
☐ LonTalk, (Clause 11), medium: _____
☐ Other: _____

Device Address Binding:

Is static device binding supported? (This is currently necessary for two-way communication with MS/TP slaves and certain other devices.) ☐Yes ☒ No

Networking Options:

☐ Router, Clause 6 - List all routing configurations, e.g., ARCNET-Ethernet, Ethernet-MS/TP, etc.
☐ Annex H, BACnet Tunnelling Router over IP
☐ BACnet/IP Broadcast Management Device (BBMD)
Does the BBMD support registrations by Foreign Devices? ☐ Yes ☐ No

Character Sets Supported:

Indicating support for multiple character sets does not imply that they can all be supported simultaneously.

☒ ISO 10646 (UTF-8)	☐ IBM™/Microsoft™ DBCS	☐ ISO 8859-1
☐ ISO 10646 (UCS-2)	☐ ISO 10646 (UCS-4)	☐ JIS C 6226