BACnet Protocol Implementation Conformance Statement

Date: 29 September 2014
Vendor Name: WindowMaster A/S
Product Name: BACnet FlexiSmoke™
Product Model Number: WSA 5MC BACnet-IP
Firmware Revision: v1
BACnet Protocol Version: 1
BACnet Protocol Revision: 10

Product Description:
The WindowMaster WSA 5MC is a controller module used in WindowMaster's FlexiSmoke™ series of Smoke Control Panels (WSC 5xx). The WSA 5MC includes a network interface used for BACnet IP.

The WSC 5xx include a LCD with touch used to manipulate relevant device parameters such as BACnet Device ID's and UDP port number.

The WSC 5xx can be configured with different Motor Modules. The BACnet objects support the maximum configuration of 13 Motor Lines. For those Objects where Motor Modules are 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							
Present Value		R[1]	W	W	R[1]	W	W	R[1]
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					
Max Pres Value		R	R					
Priority Array			R			R		
Relinquish Default			R			R		
COV Increments		R						
Polarity					R	R		
Inactive Text					R	R		
Active Text					R	R		
Bit Text								R

Analog Output Objects Instance Summary:

ID	Objects Name	Description	Unit	Present Value Access
AO 1..13	Max_position_motor_group_1..13	Sets the maximum allowed position for motor group <n>	Percent	C
AO 14..26	Auto_position_motor_group_1..13	Sets the target position with auto speed for motor group <n>	Percent	C

[1] Writable when Out Of Service is true

AO 27..30	Max_position_motor_line_S3_X1..4	Sets the maximum allowed position for motor line S3 X<n>	Percent	C
AO 31..34	Max_position_motor_line_S4_X1..4	Sets the maximum allowed position for motor line S4 X<n>	Percent	C
AO 35..38	Max_position_motor_line_S5_X1..4	Sets the maximum allowed position for motor line S5 X<n>	Percent	C
AO 39	Max_position_motor_line_S1_X1	Sets the maximum allowed position for motor line S1 X1	Percent	C
AO 40..43	Auto_position_motor_line_S3_X1..4	Set the target position of motor line S3 X<n> using auto speed	Percent	C
AO 44..47	Auto_position_motor_line_S4_X1..4	Set the target position of motor line S4 X<n> using auto speed	Percent	C
AO 48..51	Auto_position_motor_line_S5_X1..4	Set the target position of motor line S5 X<n> using auto speed	Percent	C
AO 52	Auto_position_motor_line_S1_X1	Set the target position of motor line S1 X1 using auto speed	Percent	C

Analog Input Objects Instance Summary:

ID	Objects Name	Description	Unit	Present Value Access
AI 1..4	Actual_position_motor_line_S3_X1..4	Contains the actual position for line S3 X<n>	Percent	R, COV
AI 5..8	Actual_position_motor_line_S4_X1..4	Contains the actual position for line S4 X<n>	Percent	R, COV
AI 9..12	Actual_position_motor_line_S5_X1..4	Contains the actual position for line S5 X<n>	Percent	R, COV
AI 13	Actual_position_motor_line_S1_X1	Contains the actual position for line S1 X1	Percent	R, COV
AI 14..17	Actual_max_position_motor_line_S3_X1..4	Contains the actual max position for motor line S3 X<n>	Percent	R, COV
AI 18..21	Actual_max_position_motor_line_S4_X1..4	Contains the actual max position for motor line S4 X<n>	Percent	R, COV
AI 22..25	Actual_max_position_motor_line_S5_X1..4	Contains the actual max position for motor line S5 X<n>	Percent	R, COV
AI 26	Actual_max_position_motor_line_S1_X1	Contains the actual max position for motor line S1 X1	Percent	R, COV
AI 27..39	Alarm_wind_direction_smoke_zone_1..13	Contains the actual alarm wind direction for smoke zone <n>		R, COV
AI 40	Wind_speed	Actual wind speed	m/s	R, COV
AI 41	Wind_speed_filtered	Actual filtered wind speed	m/s	R, COV
AI 42	Wind_direction	Actual wind direction	Deg	R, COV
AI 43	Wind_direction_filtered	Actual filtered wind direction	Deg	R, COV

Analog Value Objects Instance Summary:

ID	Objects Name	Description	Unit	Present Value Access
AV 1..13	Hand_position_motor_group_1..13	Set the target position of motor group <n> using hand speed	Percent	W
AV 14..26	Hand_relative_position_motor_group_1..13	Set the hand relative position for motor group <n>	Percent	W
AV 27..30	Hand_position_motor_line_S3_X1..4	Set the target position of motor line S3 X<n> using hand speed	Percent	W
AV 31..34	Hand_position_motor_line_S4_X1..4	Set the target position of motor line S4 X<n> using hand speed	Percent	W
AV 35..38	Hand_position_motor_line_S5_X1..4	Set the target position of motor line S5 X<n> using hand speed	Percent	W
AV 39	Hand_position_motor_line_S1_X1	Set the target position of motor line S1 X1 using hand speed	Percent	W

AV 40..43	Hand_relative_position_motor_line_S3_X1..4	Set the relative position of motor line S3 X<n> using hand speed	Percent	W
AV 44..47	Hand_relative_position_motor_line_S4_X1..4	Set the relative position of motor line S4 X<n> using hand speed	Percent	W
AV 48..51	Hand_relative_position_motor_line_S5_X1..4	Set the relative position of motor line S5 X<n> using hand speed	Percent	W
AV 52	Hand_relative_position_motor_line_S1_X1	Set the relative position of motor line S1 X1 using hand speed	Percent	W

Binary Output Objects Instance Summary:

ID	Objects Name	Description	Active / inactive Text	Present Value Access
BO 1..4	Close_motor_line_S3_X1..4	Set that motor line S3 X<n> must be closed	Close. All motors on the motor line must be closed / No close	C
BO 5..8	Close_motor_line_S4_X1..4	Set that motor line S4 X<n> must be closed	Close. All motors on the motor line must be closed / No close	C
BO 9..12	Close_motor_line_S5_X1..4	Set that motor line S5 X<n> must be closed	Close. All motors on the motor line must be closed / No close	C
BO 13	Close_motor_line_S1_X1	Set that motor line S1 X1 must be closed	Close. All motors on the motor line must be closed / No close	C

Binary Input Objects Instance Summary:

ID	Objects Name	Description	Active / inactive Text	Present Value Access
BI 1..4	Closed_motor_line_S3_X1..4	Indicates closed / not closed status for actuators on motor line S3 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 5..8	Closed_motor_line_S4_X1..4	Indicates closed / not closed status for actuators on motor line S4 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 9..12	Closed_motor_line_S5_X1..4	Indicates closed / not closed status for actuators on motor line S5 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 13	Closed_motor_line_S1_X1	Indicates closed / not closed status for actuators on motor line S1 X1	Closed. All motors on the motor line are closed / Not closed. One or more motors on the motor line are open	R, COV
BI 14..17	Error_motor_line_S3_X1..4	Indicates error condition for motor line S3 X<n>	Error. An error was detected on the motor line / No error. No errors detected on the motor line	R, COV

BI 18..21	Error_motor_line_S4_X1..4	Indicates error condition for motor line S4 X<n>	Error. An error was detected on the motor line / No error. No errors detected on the motor line	R, COV
BI 22..25	Error_motor_line_S5_X1..4	Indicates error condition for motor line S5 X<n>	Error. An error was detected on the motor line / No error. No errors detected on the motor line	R, COV
BI 26	Error_motor_line_S1_X1	Indicates error condition for motor line S1 X1	Error. An error was detected on the motor line / No error. No errors detected on the motor line	R, COV
BI 27..39	Alarm_smoke_zone_1..13	Smoke zone <n> alarm condition.	Alarm active in the smoke zone / No alarm active in the smoke zone	R, COV
BI 40..52	Error_smoke_zone_1..13	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 53	Error_system	System error status	System error. One or more error in the system / System ok. No errors active in the system	R, COV

Binary Value Objects Instance Summary:

ID	Objects Name	Description	Active / inactive Text	Present Value Access
BV1..13	Connection_1..13	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..13	Status_motor_group_1..13	Indicate status of the motor group <n>	Bit 0: 1 = Error. One of 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.	R

BS 14..17	Status_motor_line_S3_X1..4	Indicate status for motor line S3 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 = Power supply overcurrent. Accumulator switch opened due to overcurrent. Bit 17: 1 = Motor safety edge sensor input active.	R
BS 18..21	Status_motor_line_S4_X1..4	Indicate status for motor line S4 X<n>	Please see BS 14	R
BS 22..25	Status_motor_line_S5_X1..4	Indicate status for motor line S5 X<n>	Please see BS 14	R
BS 26	Status_motor_line_S1_X1	Indicate status for motor line S1 X1	Please see BS 14	R
ID	**Objects Name**	**Description**	**Bit_Text**	**Present Value Access**

BS 27..39	Status_smoke_zone_1..13	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
BS40	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 30 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): 2400, 4800, 9600, 19200, 38400, 76800, 115200, 226400
☐ MS/TP slave (Clause 9), baud rate(s): 2400, 4800, 9600, 19200, 38400, 76800, 115200, 226400 ☐ 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