

**PROTOCOL IMPLEMENTATION
CONFORMANCE
STATEMENT (PICS)**



NB-ASC & NB-ASC(e)

Date: September 15, 2004

Vendor Name: American Auto-Matrix

Product Name: NB-ASC

Product Model Number: NB-ASC

Application Software Version:

Firmware Revision: 1.10

BACnet Protocol Revision: 2

Product Description:

The NB-ASC is an application selectable controller with five (5) digital outputs, two (2) analog outputs, two (2) universal inputs and an optional real time clock. Pre-configured heat pump, rooftop, and fan coil application templates can be downloaded into the controller. Up to four (4) stats may be connected to the NB-ASC(e) using American Auto-Matrix's STATbus technology. The NB-ASC(e) is functionally identical except that it has five (5) digital outputs, four (4) analog outputs, five (5) universal inputs, and one (1) optically isolated digital input.

BACNET STANDARDIZED DEVICE PROFILE:

- 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:

DS-RP-B	DM-TS-A	DM-DCC-B
DS-WP-B	DM-TS-B	DM-RD-B
AE-ASUM-B	DM-DDB-B	DM-PT-A
SCHED-I-B	DM-DOB-B	DM-PT-B

SEGMENTATION CAPABILITY:

Able to transmit segmented messages yes no Window Size:

Able to receive segmented messages yes no Window Size:

STANDARD OBJECT TYPES SUPPORTED

Dynamically Creatable Objects

None

Dynamically Deletable Objects

None

Properties

Bold indicates writable properties

Italics indicates optional properties.:

Analog Input

object_identifier
object_name
object_type
present_value
status_flags
event_state
reliability
out_of_service
units
min_pres_value
max_pres_value
high_limit
low_limit
deadband

Analog Output

object_identifier
object_name
object_type
present_value
status_flags
event_state
out_of_service
units
min_pres_value
max_pres_value
relinquish_default
high_limit
low_limit
deadband

Analog Value

object_identifier
object_name
object_type
present_value
status_flags
event_state
out_of_service
units

Binary Output

object_identifier
object_name
object_type
present_value
status_flags
event_state
out_of_service
polarity
minimum_off_time
minimum_on_time

Device

object_identifier
object_name
object_type
system_status
vendor_name
vendor_identifier
model_name
firmware_revision
application_software_version
protocol_version
protocol_revision
protocol_services_supported
protocol_object_types_supported
object_list
max_apdu_length_accepted
segmentation_supported
local_time
local_date
apdu_timeout
number_of_apdu_retries
max_master
max_info_frames
device_address_binding

Calendar

object_identifier
object_name
object_type
present_value
date_list

Schedule

object-identifier
object-name
object-type
present_value
effective_period
weekly_schedule
exception_schedule
list_of_object_property_references
priority_for_writing

Proprietary Properties

Analog Input

property	Identifier #	Description
AE	16743	Alarm Enable
AS	16747	Alarm Status
BM	16754	SSB Bus Mode
BT	16757	Application Box Type
CC	16770	Current Cooling Setpoint
CH	16775	Current Heating Setpoint
DD	16794	Auto Duct Delta Temperature
DF	16796	Thermostat Display Format
DL	16798	Total Zone Demand Load
DM	16799	Demand Mode Cool/Heat/ Vent
DS	16803	Thermostat Display Mode
DT	16804	Data Type
DV	16805	Thermostat Display Value
ED	16808	Extended Occupancy Time
ER	16816	Extended Occupancy Remaining
G0	16837	Global ID for STAT Bus Device 0
G1	16838	Global ID for STAT Bus Device 1
G2	16839	Global ID for STAT Bus Device 2
G3	16840	Global ID for STAT Bus Device 3
IC	16876	Input Channel Select
IF	16878	Input Filtering
IP	16881	Input Polarity
OF	16919	Temperature Adjustment
OF	16919	UI Offset
OF	16919	Supply/Duct Temp Adjustment
OF	16919	Outside Air Temp Adjustment

property	Identifier #	Description
PB	16940	Balance P.I.N.
PG	16945	Primary STAT Bus GID
PI	16947	Installer P.I.N.
PS	16951	Service P.I.N.
PU	16952	User P.I.N.
RD	17091	Stage Reversing Delay
RM	16969	Reading Mode
SE	16984	Override Disabled/ Enabled
SM	16990	Cooling/Heating Supply Mode
ST	16996	Sensor Type
SU	16997	Alarm Setup/Setback Value
T0	17002	Thermostat 0 Reading
T1	17003	Thermostat 1 Reading
T2	17004	Thermostat 2 Reading
T3	17005	Thermostat 3 Reading
TM	17011	Offset Increment
TP	17013	User Adjust Position
TR	17014	User Adjust Remaining
TS	17015	Setpoint Offset
TT	17016	User Adjust Duration
ZS	17087	Heating/Cooling Setpoint

NOTE: Not all proprietary properties are present for all objects in all firmware applications. Please consult the NB-ASC User Manual (part number 1E-04-00-114) for more information.

Analog Output

property	Identifier #	Description
DT	16804	Datatype
HS	16863	Max Scaled Voltage
LS	16894	Min Scaled Voltage

Binary Output

property	Identifier #	Description
CL	16778	Cooling OAT Lockout
CO	16780	Cool Stage Temp Offset
CR	16782	Cool Minimum Run Time
CS	16783	Cool Minimum Off Time
CX	16786	Cool Staging Delay
FD	16825	Shutoff Delay
FN	16829	Night Setback Fan Mode
FO	16830	Occupied Fan Mode
FR	16832	Minimum Run Time
FS	16833	Minimum Off Time
FU	16835	Unoccupied Fan Mode
FX	16836	Staging Delay
HL	16858	Heating OAT Lockout
HO	16860	Heat Stage Temp Offset
HR	16862	Heat Minimum Run Time
HS	16863	Heat Minimum Off Time
HX	16866	Heat Staging Delay
MR	16901	Minimum Run Time
MS	16902	Minimum Off Time
MX	16905	Staging Delay
OI	16921	Hand-Off-Auto Override

property	Identifier #	Description
RH	16966	Run Hours
RL	16968	Run Limit
SD	16983	Settling Delay
TH	17009	High Temperature Lockout
TL	17010	Low Temp Lockout
TO	17012	Stage Temperature Offset

NOTE: Not all proprietary properties are present for all objects in all firmware applications. Please consult the NB-ASC User Manual (part number 1E-04-00-114) for more information.

Device

Property	Identifier #	Description
BU	16758	Backup Control
CC	16770	Count of Clock Fails
CM	16779	Controller Manufacturer Code
CP	16781	Network Baud Rate
CT	16784	Controller Type
DE	16795	Default Enable Command
EM	16813	English/Metric
F1	16820	Fan Failure Interlock Trips Fan?
F2	16821	Fan Failure Interlock Trips Fan?
F3	16822	Fan Failure Interlock Trips Fan?
FT	16834	Firmware Type
I1	16868	Interlock 1 Channel
I2	16869	Interlock 2 Channel
I3	16870	Fan Failure Interlock
IC	16876	EEPROM Default Count
ID	16877	Unit ID

Property	Identifier #	Description
IS	16882	Interlock Status
MS	16902	Master/Slave Mode
OC	16917	Count of Illegal Opcodes
OS	16925	Kernel Version
PD	16942	Power-on Delay
PS	16951	Power-up State
RC	16963	Count of Resets
RI	16967	Reset Fan Failure Interlock
RS	16972	Reset
SN	16991	Serial Number
SR	16994	Software Time Stamp
UP	17030	Flash Update Count
VE	17043	Software Version
WC	17050	Count of Watchdog COP
ZN	17084	Zone Number
ZP	17085	Count of High Current Pulses

Schedule

property	Identifier #	Description
HE	16853	Host Overrides
HO	16860	Host Schedule
IS	16882	Inactive Schedule State
ZE	17081	Receive Schedule

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): 9.6k, 19.2k, 38.4k, 57.6k
- MS/TP slave (Clause 9), baud rate(s): 9.6k, 19.2k, 38.4k, 57.6k
- 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? Yes No

(This is currently necessary for two-way communication with MS/TP slaves and certain other devices.)

NETWORKING OPTIONS:

- Router, Clause 6 - List all routing configurations, e.g., ARCNET-Ethernet, Ethernet-MS/TP, etc.
- Annex H, BACnet Tunneling 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.

- | | |
|---|--|
| <input checked="" type="checkbox"/> ANSI X3.4 | <input type="checkbox"/> ISO 10646 (UCS-4) |
| <input type="checkbox"/> IBM™/Microsoft™ DBCS | <input type="checkbox"/> ISO 10646 (UCS-2) |
| <input type="checkbox"/> JIS C 6226 | <input type="checkbox"/> ISO 8859-1 |

GATEWAY

The *NB-ASC* and *NB-ASC(e)* do not support gateway functionality for any types of non-BACnet equipment/network(s).