

	COMMUNICATION PROTOCOL	PR 132	rev. 0
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MULTIFUNCTION		FIRMWARE ≥ 2.27	
IF96014 BACnet			

BACnet Protocol Implementation Conformance Statement

Date: February, 17th 2009
Vendor Name: IME
Product Name: NEMO
Product Model Number: N.A.
Applications Software Version: 1
Firmware Revision: N.A.
BACnet Protocol Revision: 1.4 (ANSI/ASHRAE 135/2004)
Product Description: Multimeter

BACnet Standardized Device Profile (Annex L):

BACnet Application Specific Controller (B-ASC)

List all BACnet Interoperability Building Blocks Supported (Annex K):

Data Sharing-ReadProperty-B (DS-RP-B)
 Data Sharing-ReadPropertyMultiple-B (DS-RPM-B)
 Data Sharing-WriteProperty-B (DS-WP-B)
 Device Management-Dynamic Device Binding-B (DM-DDB-B)
 Device Management-Dynamic Object Binding-B (DM-DOB-B)
 Device Communication Control (DM-DCC-B)

Segmentation Capability:

Segmentation not supported

Standard Object Types Supported:

No dynamic Creation or Deletion supported
 No proprietary object type supported

Device Object:**Optional Properties Supported:**

None

Standard Properties Used In a Non-standard Way:

None

Proprietary Properties Supported:

None

Writable Properties:

Object_Identifier

Object_Name

Number_Of_APDU_Retries

APDU_Timeout

Analog Input Objects:**Optional Properties Supported:**

Description

Standard Properties Used In a Non-standard Way:

None

Proprietary Properties Supported:

None

Writable Properties:

None

Binary Input Objects:**Optional Properties Supported:**

Description

Standard Properties Used In a Non-standard Way:

None

Proprietary Properties Supported:

None

Writable Properties:

None

MultiState Input Objects:**Optional Properties Supported:**

Description

Standard Properties Used In a Non-standard Way:

None

Proprietary Properties Supported:

None

Writable Properties:

None

Binary Value Objects:**Optional Properties Supported:**

Description

Standard Properties Used In a Non-standard Way:

None

Proprietary Properties Supported:

None

Writable Properties:

Present_Value

Analog Value Objects:**Optional Properties Supported:**

Description

Standard Properties Used In a Non-standard Way:

None

Proprietary Properties Supported:

None

Writable Properties:

Present_Value

Data Link Layer Options:

BACnet MS/TP master (clause 9)

Supported baudrates: 9600, 19200, 38400, 76800

Device Address Binding:

Static device binding is not supported. (No client functionality is included).

Character Sets Supported:

ANSI X3.4

List of objects

The IME NEMO multimeter allows the following data to be read

Analog Inputs

Instance	Description	Unit
0	Phase 1 Voltage	V
1	Phase 2 Voltage	V
2	Phase 3 Voltage	V
3	Phase 1 Current	A
4	Phase 2 Current	A
5	Phase 3 Current	A
6	Neutral Current	A
7	L1-L2 Voltage	V
8	L2-L3 Voltage	V
9	L1-L3 Voltage	V
10	3-Phase Active Power	W
11	3-Phase Reactive Power	VAR
12	3-Phase Apparent Power	VA
13	3-Phase Positive Active Energy L	Wh
14	3-Phase Positive Active Energy H	MWh
15	3-Phase Positive Reactive Energy L	VARh
16	3-Phase Positive Reactive Energy H	MVARh
17	3-Phase Negative Active Energy L	Wh
18	3-Phase Negative Active Energy H	MWh
19	3-Phase Negative Reactive Energy L	VARh
20	3-Phase Negative Reactive Energy H	MVARh
21	3-Phase Power Factor	
22	Frequency	Hz
23	3-Phase Average Power	W
24	3-Phase Peak Demand	W
25	Average Power TimeCounter	Minutes
26	Phase 1 Active Power	W
27	Phase 2 Active Power	W
28	Phase 3 Active Power	W
29	Phase 1 Reactive Power	VAR
30	Phase 2 Reactive Power	VAR
31	Phase 3 Reactive Power	VAR
32	Phase 1 Apparent Power	VA
33	Phase 2 Apparent Power	VA
34	Phase 3 Apparent Power	VA
35	Phase 1 Power Factor	
36	Phase 2 Power Factor	
37	Phase 3 Power Factor	
38	Phase 1 Voltage THD	%
39	Phase 2 Voltage THD	%
40	Phase 3 Voltage THD	%
41	Phase 1 Current THD	%
42	Phase 2 Current THD	%
43	Phase 3 Current THD	%
44	Phase 1 Average Current	A

45	Phase 2 Average Current	A
46	Phase 3 Average Current	A
47	Phase 1 Peak Current	A
48	Phase 2 Peak Current	A
49	Phase 3 Peak Current	A
50	Currents Average	A
51	Phase 1 Voltage Minimum	V
52	Phase 2 Voltage Minimum	V
53	Phase 3 Voltage Minimum	V
54	Phase 1 Voltage Maximum	V
55	Phase 2 Voltage Maximum	V
56	Phase 3 Voltage Maximum	V
57	3-Phase Active Partial Energy L	Wh
58	3-Phase Active Partial Energy H	MWh
59	3-Phase Reactive Partial Energy L	VARh
60	3-Phase Reactive Partial Energy H	MVARh
61	Operating Time Counter	Hours
62	3-phase Active Average Power	W
63	3-phase Reactive Average Power	VAR
64	3-phase Apparent Average Power	VAR
65	3-phase Active PMD Power	W
66	3-phase Reactive PMD Power	VAR
67	3-phase Apparent PMD Power	VA

Binary Inputs

Instance	Description	Notes
0	Alarm 0 Active	
1	Alarm 1 Active	
2	Alarm 2 Active	
3	Alarm 3 Active	

MultiState Inputs

<i>Instance</i>	<i>Description</i>	<i>Values</i>
0	3-Phase Active Power Sign	0 = positive 1 = negative
1	3-Phase Reactive Power Sign	0 = positive 1 = negative
2	3-Phase Power Factor Sector	0 => PF=1 or PF = 0 1 = inductive 2 = capacitive
3	Phase 1 Active Power Sign	0 = positive 1 = negative
4	Phase 2 Active Power Sign	0 = positive 1 = negative
5	Phase 3 Active Power Sign	0 = positive 1 = negative
6	Phase 1 Reactive Power Sign	0 = positive 1 = negative
7	Phase 2 Reactive Power Sign	0 = positive 1 = negative
8	Phase 3 Reactive Power Sign	0 = positive 1 = negative
9	Phase 1 Power Factor Sector	0 => PF=1 or PF = 0 1 = inductive 2 = capacitive
10	Phase 2 Power Factor Sector	0 => PF=1 or PF = 0 1 = inductive 2 = capacitive
11	Phase 3 Power Factor Sector	0 => PF=1 or PF = 0 1 = inductive 2 = capacitive

Analog Values

<i>Instance</i>	<i>Description</i>	<i>Notes</i>
0	KTA	
1	KTV	

Binary Values

<i>Instance</i>	<i>Description</i>	<i>Notes</i>
0	Reset Hour Meter	Write-only: write 1 to reset hour meter
1	Reset Maximum Powers	Write-only: write 1 to reset maximum powers
2	Reset Maximum Voltages	Write-only: write 1 to reset maximum voltages
3	Reset Maximum Currents	Write-only: write 1 to reset maximum currents
4	Reset Minimum Voltages	Write-only: write 1 to reset minimum voltages
5	Reset Active Partial Energy	Write-only: write 1 to reset active partial energy
6	Reset Reactive Partial Energy	Write-only: write 1 to reset reactive partial energy