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Rev	DESCRIPTION	Date	Sw
A	Formal revision	21/02/2018	➤ 2.3.1

## 1. BACnet Protocol Implementation Conformance Statement

**Date:** February 21<sup>st</sup>, 2018  
**Vendor Name:** IME  
**Product Name:** NEMO D4Le / NEMO MD  
**Product Model Number:** MFD44B1 – MFD44B2 / IF96014  
**Applications Software Version:**  
**Firmware Revision:** 2.3.1  
**BACnet Protocol Revision:** 1.12 (ANSI/ASHRAE 135/2010)  
Multifunction meter

**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		Notes
<b>Optional Properties Supported</b>	Description	
	Protocol_Conformance_Class	
<b>Standard Properties Used in a Non-standard Way</b>	None	
<b>Proprietary Properties Supported</b>	None	
<b>Writable Properties</b>	Object_Identifier	
	Object_Name	Max. length: 45 bytes
	Number_Of_APDU_Retries	Valid values: from 0 to 10
	APDU_Timeout	Valid values: from 0 to 65535
	Max master	Valid values: from 1 to 127
	Max info frames	Valid values: from 1 to 255

Analog Input Objects	
<b>Optional Properties Supported</b>	Description
<b>Standard Properties Used in a Non-standard Way</b>	None
<b>Proprietary Properties Supported</b>	None
<b>Writable Properties</b>	Description

MultiState Input Objects	
<b>Optional Properties Supported</b>	Description
<b>Standard Properties Used in a Non-standard Way</b>	None
<b>Proprietary Properties Supported</b>	None
<b>Writable Properties</b>	Description

Binary Value Objects	
<b>Optional Properties Supported</b>	Description
<b>Standard Properties Used in a Non-standard Way</b>	None
<b>Proprietary Properties Supported</b>	None
<b>Writable Properties</b>	Description Present_Value

Analog Value Objects	
<b>Optional Properties Supported</b>	Description
<b>Standard Properties Used in a Non-standard Way</b>	None
<b>Proprietary Properties Supported</b>	None
<b>Writable Properties</b>	Description Present_Value

<b>Binary Input Objects</b>	None
<b>Optional Properties Supported</b>	Description
<b>Standard Properties Used in a Non-standard Way</b>	None
<b>Proprietary Properties Supported</b>	None
<b>Writable Properties</b>	Description 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 multifunction meter allows the following data to be read

**2. SUPPORTED DEVICES**

NEMO D4Le	- MFD44B1 and MFD44B2
NEMO MD	- IF96014

### 3. OBJECTS

#### Analogue Inputs

<b>Instance</b>	<b>Description</b>	<b>Base Unit</b>	<b>Notes</b>
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	Unsigned
11	3-Phase Reactive Power	var	Unsigned
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 (exported) Active Energy L	Wh	
18	3-Phase Negative (exported) Active Energy H	MWh	
19	3-Phase Negative (exported) Reactive Energy L	varh	
20	3-Phase Negative (exported) Reactive Energy H	Mvarh	
21	3-Phase Power Factor	(2 decimals) e.g. 1.00 => 1.00 0.944 => 0.94 -0.98 => -0.98	Signed
22	Frequency	Hz (1 decimal)	
23	3-phase Active Average Power	W	
24	3-phase Active PMD Power	W	
25	Average Power TimeCounter	Minutes	
26	Phase 1 Active Power	W	Unsigned
27	Phase 2 Active Power	W	Unsigned
28	Phase 3 Active Power	W	Unsigned
29	Phase 1 Reactive Power	var	Unsigned
30	Phase 2 Reactive Power	var	Unsigned
31	Phase 3 Reactive Power	var	Unsigned
32	Phase 1 Apparent Power	VA	
33	Phase 2 Apparent Power	VA	
34	Phase 3 Apparent Power	VA	
35	Phase 1 Power Factor	x.yy (2 decimals)	Signed
36	Phase 2 Power Factor	x.yy (2 decimals)	Signed
37	Phase 3 Power Factor	x.yy (2 decimals)	Signed
38	Phase 1 Voltage THD	% (1 decimal)	
39	Phase 2 Voltage THD	% (1 decimal)	
40	Phase 3 Voltage THD	% (1 decimal)	
41	Phase 1 Current THD	% (1 decimal)	
42	Phase 2 Current THD	% (1 decimal)	
43	Phase 3 Current THD	% (1 decimal)	
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	Run Hour Meter	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	
68	3-Phase Apparent Energy L	VAh	
69	3-Phase Apparent Energy H	MVAh	

### Analog Values

<b>Instance</b>	<b>Description</b>	<b>Unit</b>	<b>Notes</b>
0	CT (Current) ratio	No unit	Valid range: 1...9999 Only integer part of the value being written is stored
1	PT (Voltage) ratio	x.y (1 decimal) e.g 1.00 => 1.0 6.43 => 6.4 10.00 => 10.0	Read-only

### MultiState Inputs

<b>Instance</b>	<b>Description</b>	<b>Values</b>
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	1 = inductive 2 = capactive
10	Phase 2 – Power Factor	1 = inductive 2 = capactive
11	Phase 3 – Power Factor	1 = inductive 2 = capactive

**Binary Values**

<b>Instance</b>	<b>Description</b>	<b>Notes</b>
0	Reset Hour Meter	Write-only: always read as 0, write 1 to reset hour meter
1	Reset Maximum Powers	Write-only: always read as 0, write 1 to reset all maximum power values (P, Q, S)
2	Reset max peak of voltages	Write-only: always read as 0, write 1 to reset all maximum peak voltages
3	Reset max peak of currents	Write-only: always read as 0, write 1 to reset all maximum peak currents
4	Reset min value of voltages	Write-only: always read as 0, write 1 to reset all minimum voltages
5	Reset Active Partial Energy value	Write-only: always read as 0, write 1 to reset active partial energy value
6	Reset Reactive Partial Energy value	Write-only: always read as 0, write 1 to reset reactive partial energy value

**Binary Inputs**

<b>Instance</b>	<b>Description</b>	<b>Device</b>
0	Alarm 0 Active	NEMO 96HD / HD+ / NEMO D4Le
1	Alarm 1 Active	NEMO 96HD / HD+
2	Alarm 2 Active	NEMO 96HD / HD+
3	Alarm 3 Active	NEMO 96HD / HD+

Binary inputs are only readable.