

BACnet Protocol Implementation Conformance Statement

Date: 28.11.2017 r.

Vendor Name: LUMEL S.A.

Vendor ID number: 1038

Product Name: ND30BAC

Product Model Number: 1.0

Application Software Version: 0.8

Firmware Revision: 0.8

BACnet Protocol Revision: 12

Product Description:

Network parameters analyzer.

BACnet Standardized Device Profile (Annex L):

BACnet Application Specific Controller (B-ASC)

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

Data Sharing	Device Management
ReadProperty-B (DS-RP-B)	TimeSynchronization-B (DM-TS-B)
ReadPropertyMultiple-B (DS-RPM-B)	Dynamic Device Binding-B (DM-DDB-B)
WriteProperty-B (DS-WP-B)	
WritePropertyMultiple-B (DS-WPM-B)	
Change Of Value-B (DS-COV-B)*	

* Max. lifetime - one year, max. subscriptions – 64.

Standard Object Types Supported:

- **Device Object Type**

1. Dynamically creatable using the CreateObject service? NO
2. Dynamically deletable using the DeleteObject service? NO
3. List of the optional properties supported:
 - Location,
 - Description.
4. Properties saved to non-volatile memory:
 - Device Name,
 - Object Instance Number,
 - Location,
 - Description.

- **Analog Input Object Type**

1. Dynamically creatable using the CreateObject service? NO
2. Dynamically deletable using the DeleteObject service? NO
3. List of the optional properties supported:
 - Description.

4. List of chosen properties:

Object Instance Number	Object Name	Description	Units
0	U1	L1 phase voltage	VOLTS
1	I1	L1 phase current	AMPERES
2	P1	L1 phase active power	WATTS
3	Q1	L1 phase reactive power	VOLT AMPERES REACTIVE
4	S1	L1 phase apparent power	VOLT AMPERES
5	PF1	L1 phase active power factor	NO UNITS
6	tg1	tg factor of L1 phase	NO UNITS
7	THD U1(U12)	THD U1(U12)	PERCENT
8	THD I1	L1 phase current THD	PERCENT
10	U2	L2 phase voltage	VOLTS
11	I2	L2 phase current	AMPERES
12	P2	L2 phase active power	WATTS
13	Q2	L2 phase reactive power	VOLT AMPERES REACTIVE
14	S2	L2 phase apparent power	VOLT AMPERES
15	PF2	L2 phase active power factor	NO UNITS
16	tg2	tg factor of L2 phase	NO UNITS
17	THD U2(U23)	THD U2(U23)	PERCENT
18	THD I2	L2 phase current THD	PERCENT
20	U3	L3 phase voltage	VOLTS
21	I3	L3 phase current	AMPERES
22	P3	L3 phase active power	WATTS
23	Q3	L3 phase reactive power	VOLT AMPERES REACTIVE
24	S3	L3 phase apparent power	VOLT AMPERES
25	PF3	L3 phase active power factor	NO UNITS
26	tg3	tg factor of L3 phase	NO UNITS
27	THD U3(U31)	THD U3(U31)	PERCENT
28	THD I3	L3 phase current THD	PERCENT
30	Uavg	Mean 3-phase voltage	VOLTS
31	Iavg	Mean 3-phase current	AMPERES
32	P	3-phase active power (P1+P2+P3)	WATTS
33	Q	3-phase reactive power (Q1+Q2+Q3)	VOLT AMPERES REACTIVE
34	S	3-phase apparent power (S1+S2+S3)	VOLT AMPERES
35	PF	3-phase active power factor $PF=P/S$	NO UNITS
36	tg	Mean tg factor for 3 phases ($tg=Q/P$)	NO UNITS
37	THD U	THD U mean 3-phase(phase-to-phase)	PERCENT
38	THD I	THD I mean 3-phase	PERCENT
40	f	Frequency	HERTZ
41	U12	Phase-to-phase voltage L1-L2	VOLTS
42	U23	Phase-to-phase voltage L2-L3	VOLTS
43	U31	Phase-to-phase voltage L3-L1	VOLTS
44	U123	Mean phase-to-phase voltage	VOLTS
45	P DMD	Active power averaged (P Demand)	WATTS
46	S DMD	Apparent power averaged (S Demand)	VOLT AMPERES
47	I DMD	Current averaged (I Demand)	AMPERES
48	I N	Neutral wire current	AMPERES
49	CntEnP+	Active 3-phase import energy-overflows	NO UNITS

50	EnP+	Active 3-phase import energy	KILOWATT HOURS
51	CntEnP-	Active 3-phase export energy- overflows	NO UNITS
52	EnP-	Active 3-phase export energy	KILOWATT HOURS
53	CntEnQl	Reactive 3-phase inductive energy- overflows	NO UNITS
54	EnQl	Reactive 3-phase inductive energy	KILOWATT HOURS REACTI
55	CntEnQc	Reactive 3-phase capacity energy- overflows	NO UNITS
56	EnQc	Reactive 3-phase capacity energy	KILOWATT HOURS REACTI
57	CntEnS	3-phase apparent energy-overflows	NO UNITS
58	EnS	3-phase apparent energy	KILOVOLTAMPER HOURS
60	Status1	Status 1 register	NO UNITS
61	Status2	Status 2 register	NO UNITS
62	Status3	Status 3 register	NO UNITS
63	Status4	Status 4 register	NO UNITS
64	Status5	Status 5 register	NO UNITS
65	Status6	Status 6 register	NO UNITS
66	AO1	Continuous output 1 activation	MILLIAMPERES
67	T1	Temperature Pt100 1	DEGREES CELSIUS
68	T2	Temperature Pt100 2	DEGREES CELSIUS
70	U1_min	Voltage L1 min	VOLTS
71	U1_max	Voltage L1 max	VOLTS
72	U2_min	Voltage L2 min	VOLTS
73	U2_max	Voltage L2 max	VOLTS
74	U3_min	Voltage L3 min	VOLTS
75	U3_max	Voltage L3 max	VOLTS
76	I1_min	Current L1 min	AMPERES
77	I1_max	Current L1 max	AMPERES
78	I2_min	Current L2 min	AMPERES
79	I2_max	Current L2 max	AMPERES
80	I3_min	Current L3 min	AMPERES
81	I3_max	Current L3 max	AMPERES
82	P1_min	Active power L1 min	WATTS
83	P1_max	Active power L1 max	WATTS
84	P2_min	Active power L2 min	WATTS
85	P2_max	Active power L22max	WATTS
86	P3_min	Active power L3 min	WATTS
87	P3_max	Active power L3 max	WATTS
88	Q1_min	Reactive power L1 min	VOLT AMPERES REACTIVE
89	Q1_max	Reactive power L1 max	VOLT AMPERES REACTIVE
90	Q2_min	Reactive power L2 min	VOLT AMPERES REACTIVE
91	Q2_max	Reactive power L2 max	VOLT AMPERES REACTIVE
92	Q3_min	Reactive power L3 min	VOLT AMPERES REACTIVE
93	Q3_max	Reactive power L3 max	VOLT AMPERES REACTIVE
94	S1_min	Apparent power L1 min	VOLT AMPERES
95	S1_max	Apparent power L1 max	VOLT AMPERES
96	S2_min	Apparent power L2 min	VOLT AMPERES
97	S2_max	Apparent power L2 max	VOLT AMPERES
98	S3_min	Apparent power L3 min	VOLT AMPERES
99	S3_max	Apparent power L3 max	VOLT AMPERES
100	PF1_min	Power factor PF L1 min)	NO UNITS
101	PF1_max	Power factor PF L1 max)	NO UNITS

102	PF2_min	Power factor PF L2 min)	NO UNITS
103	PF2_max	Power factor PF L2 max)	NO UNITS
104	PF3_min	Power factor PF L3 min)	NO UNITS
105	PF3_max	Power factor PF L3 max)	NO UNITS
106	tg1_min	Reactive to active power ratio L1 min	NO UNITS
107	tg1_max	Reactive to active power ratio L1 max	NO UNITS
108	tg2_min	Reactive to active power ratio L2 min	NO UNITS
109	tg2_max	Reactive to active power ratio L2 max	NO UNITS
110	tg3_min	Reactive to active power ratio L3 min	NO UNITS
111	tg3_max	Reactive to active power ratio L3 max	NO UNITS
113	U12_min	Phase-to-phase voltage L1-L2 min	VOLTS
114	U12_max	Phase-to-phase voltage L1-L2 max	VOLTS
115	U23_min	Phase-to-phase voltage L2-L3 min	VOLTS
116	U23_max	Phase-to-phase voltage L2-L3 max	VOLTS
117	U31_min	Phase-to-phase voltage L3-L1 min	VOLTS
118	U31_max	Phase-to-phase voltage L3-L1 max	VOLTS
119	Uavg_min	Mean 3-phase voltage min	VOLTS
120	Uavg_max	Mean 3-phase voltage min	VOLTS
121	Iavg_min	Mean 3-phase current min	AMPERES
122	Iavg_max	Mean 3-phase current min	AMPERES
123	3P_min	3-phase active power min	WATTS
124	3P_max	3-phase active power max	WATTS
125	3Q_min	3-phase reactive power min	VOLT AMPERES REACTIVE
126	3Q_max	3-phase reactive power max	VOLT AMPERES REACTIVE
127	3S_min	3-phase apparent power min	VOLT AMPERES
128	3S_max	3-phase apparent power max	VOLT AMPERES
129	3PF_min	3-phase active power factor min	NO UNITS
130	3PF_max	3-phase active power factor max	NO UNITS
131	3tg_min	Mean tg factor for 3 phases min	NO UNITS
132	3tg_max	Mean tg factor for 3 phases max	NO UNITS
133	f_min	Frequency min	HERTZ
134	f_max	Frequency max	HERTZ
135	U123_min	Mean phase-to-phase voltage min	VOLTS
136	U123_max	Mean phase-to-phase voltage max	VOLTS
138	P DMD min	Active power averaged (P Demand) min	WATTS
139	P DMD max	Active power averaged (P Demand) max	WATTS
140	S DMD min	Apparent power averaged (S Demand) min	VOLT AMPERES
141	S DMD max	Apparent power averaged (S Demand) max	VOLT AMPERES
142	I DMD min	Current averaged (I Demand) min	AMPERES
143	I DMD max	Current averaged (I Demand) max	AMPERES
144	I N_min	Neutral wire current min	AMPERES
145	I N_max	Neutral wire current max	AMPERES
146	T1_min	Temperature Pt100 1 min	DEGREES CELSIUS
147	T1_max	Temperature Pt100 1 max	DEGREES CELSIUS

148	T2 min	Temperature Pt100 2 min	DEGREES CELSIUS
149	T2 max	Temperature Pt100 2 max	DEGREES CELSIUS
151	THD U1(U12) min	THD U1(U12) min	PERCENT
152	THD U1(U12) max	THD U1(U12) max	PERCENT
153	THD U2(U23) min	THD U2(U23) min	PERCENT
154	THD U2(U23) max	THD U2(U23) max	PERCENT
155	THD U3(U31) min	THD U3(U31) min	PERCENT
156	THD U3(U31) max	THD U3(U31) max	PERCENT
157	THD U min	THD U mean 3-phase(phase-to-phase) min	PERCENT
158	THD U max	THD U mean 3-phase(phase-to-phase) max	PERCENT
159	THD I1 min	L1 phase current THD min	PERCENT
160	THD I1 max	L1 phase current THD max	PERCENT
161	THD I2 min	L2 phase current THD min	PERCENT
162	THD I2 max	L2 phase current THD max	PERCENT
163	THD I3 min	L3 phase current THD min	PERCENT
164	THD I3 max	L3 phase current THD max	PERCENT
165	THD I min	THD I mean 3-phase min	PERCENT
166	THD I max	THD I mean 3-phase max	PERCENT
167	U1h2	2-nd voltage harmonic (phase L1)	PERCENT
...
207	U1h51	51-st voltage harmonic (phase L1)	PERCENT
208	U2h2	2-nd voltage harmonic (phase L2)	PERCENT
...
257	U2h51	51-st voltage harmonic (phase L2)	PERCENT
258	U3h2	2-nd voltage harmonic (phase L3)	PERCENT
...
307	U3h51	51-st voltage harmonic (phase L3)	PERCENT
308	I1h2	2-nd current harmonic (phase L1)	PERCENT
...
357	I1h51	51-st current harmonic (phase L1)	PERCENT
358	I2h2	2-nd current harmonic (phase L2)	PERCENT
...
407	I2h51	51-st current harmonic (phase L2)	PERCENT
408	I3h2	2-nd current harmonic (phase L3)	PERCENT
...
457	I3h51	51-st current harmonic (phase L3)	PERCENT
458	Q DMD	Reactive power averaged (Q Demand)	VOLT AMPERES REACTIVE
459	Q DMD min	Reactive power averaged (Q Demand) max	VOLT AMPERES REACTIVE
460	Q DMD max	Reactive power averaged (Q Demand) min	VOLT AMPERES REACTIVE
461	PFa	Mean active power factor(PF1+PF2+PF3)/3)	NO UNITS
462	PFa min	Mean active power factor min	NO UNITS
463	PFa max	Mean active power factor max	NO UNITS

Data Link Layer Options:

BACnet IP, (Annex J)

Character Sets Supported:

ANSI X3.4 (UTF-8)

Segmented messages:
Not supported