

DNP V3.00**DEVICE PROFILE DOCUMENT**

Vendor Name: ELECTRON DO BRASIL

Device Name: Monitemp

Highest DNP Level Supported:

For Requests: 1

For Responses: 1

Device Function:

☐ Master ☒ Slave

Notable objects, functions, and/or qualifiers supported in addition to the Highest DNP Level Supported (the complete list is described in the attached table).

Supports class data requests only and SBO and direct operate analog commands. Answers are analog group objects variations 4, for static data (in class 0 requests), and variation 2, for event data (events are reported in class 1, 2 or 3 request)

Maximum Data Link Frame Size
(octets):Transmitted 292
Received (must be 292)Maximum Application Fragment Size
(octets):Transmitted 1024
Received 249Maximum Data Link Retries:
Layer Retries:

- ☒ None
☐ Fixed at _____
to _____
☐ Configurable, range ____ to ____

Maximum Application

- ☒ None
☐ Configurable, range ____

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Maximum Data Link Frame Size
(octets):

Transmitted 292
Received (must be 292)

Maximum Application Fragment Size

Transmitted 1024
Received 249

Maximum Data Link Retries:

- ☒ None
☐ Fixed at _____
☐ Configurable, range ____ to ____

Maximum Application Layer Retries:

- ☒ None
☐ Configurable, range ____ to ____

Requires Application Layer Confirmation:

- ☐ Never
☐ Always
☒ Sometimes if "sometimes", when? Sending analog events
☐ Configurable if "configurable", how? _____
-

Requires Application Layer Confirmation:

- ☐ Never
☐ Always (not recommended)
☒ When reporting Event Data (Slave device only)
☐ When sending multi-fragment responses (Slave devices only)
☐ Sometimes if "sometimes", when? _____
☐ Configurable if "configurable", how? _____
-

Timeouts while waiting for:

Data Link Confirm	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Fixed at _____	<input type="checkbox"/> Variable	<input type="checkbox"/> Configurable
Complete Appl. Fragment	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Fixed at _____	<input type="checkbox"/> Variable	<input type="checkbox"/> Configurable
Application Confirm	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Fixed at _____	<input type="checkbox"/> Variable	<input type="checkbox"/> Configurable
Complete Appl. Response	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Fixed at _____	<input type="checkbox"/> Variable	<input type="checkbox"/> Configurable

Others _____

Attach explanation if "Variable" or "Configurable" was checked for any timeout.

Requires Application Layer Confirmation:

- ☐ Never
☐ Always
☒ Sometimes if "sometimes", when? Sending analog events
☐ Configurable if "configurable", how? _____
-

Requires Application Layer Confirmation:

- ☐ Never
☐ Always (not recommended)
☒ When reporting Event Data (Slave device only)
☐ When sending multi-fragment responses (Slave devices only)
☐ Sometimes if "sometimes", when? _____
☐ Configurable if "configurable", how? _____
-

Timeouts while waiting for:

Data Link Confirm	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Fixed at _____	<input type="checkbox"/> Variable	<input type="checkbox"/> Configurable
Complete Appl. Fragment	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Fixed at _____	<input type="checkbox"/> Variable	<input type="checkbox"/> Configurable
Application Confirm	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Fixed at _____	<input type="checkbox"/> Variable	<input type="checkbox"/> Configurable
Complete Appl. Response	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Fixed at _____	<input type="checkbox"/> Variable	<input type="checkbox"/> Configurable

Others _____

Attach explanation if "Variable" or "Configurable" was checked for any timeout.

Sends/Executes Control Operations:

WRITE Binary Outputs	<input checked="" type="checkbox"/> Never	<input type="checkbox"/> Always	<input type="checkbox"/> Sometimes	<input type="checkbox"/> Configurable
SELECT/OPERATE	<input type="checkbox"/> Never	<input type="checkbox"/> Always	<input checked="" type="checkbox"/> Sometimes	<input type="checkbox"/> Configurable
DIRECT OPERATE	<input type="checkbox"/> Never	<input type="checkbox"/> Always	<input checked="" type="checkbox"/> Sometimes	<input type="checkbox"/> Configurable
DIRECT OPERATE – NO ACK	<input type="checkbox"/> Never	<input type="checkbox"/> Always	<input checked="" type="checkbox"/> Sometimes	<input type="checkbox"/> Configurable
Count > 1	<input checked="" type="checkbox"/> Never	<input type="checkbox"/> Always	<input type="checkbox"/> Sometimes	<input type="checkbox"/> Configurable
Pulse On	<input checked="" type="checkbox"/> Never	<input type="checkbox"/> Always	<input type="checkbox"/> Sometimes	<input type="checkbox"/> Configurable
Pulse Off	<input checked="" type="checkbox"/> Never	<input type="checkbox"/> Always	<input type="checkbox"/> Sometimes	<input type="checkbox"/> Configurable
Latch On	<input checked="" type="checkbox"/> Never	<input type="checkbox"/> Always	<input type="checkbox"/> Sometimes	<input type="checkbox"/> Configurable
Latch Off	<input checked="" type="checkbox"/> Never	<input type="checkbox"/> Always	<input type="checkbox"/> Sometimes	<input type="checkbox"/> Configurable
Queue	<input checked="" type="checkbox"/> Never	<input type="checkbox"/> Always	<input type="checkbox"/> Sometimes	<input type="checkbox"/> Configurable
Clear Queue	<input checked="" type="checkbox"/> Never	<input type="checkbox"/> Always	<input type="checkbox"/> Sometimes	<input type="checkbox"/> Configurable

Attach explanation if “Sometimes” or “Configurable” was checked for any operation.

Accepts analog commands only, in SBO or direct operate mode

FILL OUT THE FOLLOWING ITEM FOR MASTER DEVICER ONLY**Expects Binary Input Change Events:**

- ☐ Either time-tagged or non-time-tagged for a single event
- ☐ Both time-tagged and non-time-tagged for a single event
- ☐ Configurable (attach explanation)

FILL OUT THE FOLLOWING ITEMS FOR SLAVE DEVICES ONLY

Reports Binary Input Change Events
When no specific variation requested:

- ☒ Never
- ☐ Only time-tagged
- ☐ Only non-time-tagged
- ☐ Configurable to send both, one or the other (attach explanation)

Reports time-tagged Binary
Input Change Events when no
Specific variation requested:

- ☒ Never
- ☐ Binary Input Change With Time
- ☐ Binary Input Change With
Relative Time
- ☐ Configurable (attach explanation)

Sends Unsolicited Responses:

- ☒ Never
- ☐ Configurable (attach explanation)
- ☐ Only certain objects
Sometimes (attach explanation)
- ☐ ENABLE/DISABLE UNSOLICITED
Function codes supported

Sends Static Data Unsolicited
Responses:

- ☒ Never
- ☐ When Device Restarts
- ☐ When Status Flags Change

No other options are permitted

Default Counter Object/Variation:

- ☒ No Counters Reported
- ☐ Configurable (attach explanation)
- ☐ Default Object _____
Default Variation _____
- ☐ Point-by-point list attached

Counters Roll Over at:

- ☒ No Counters Reported
- ☐ Configurable (attach explanation)
- ☐ 16 Bits
- ☐ 32 Bits
- ☐ Other Value _____
- ☐ Point-by-point list attached

Sends Multi-Fragment Responses: ☐ Yes ☒ No

OBJECT			REQUEST (slave must parse)		RESPONSE (master must parse)	
Obj	Var	Description	Func Codes (dec)	Qual Codes (hex)	Func Codes	Qual Codes (hex)
30	4	16 Bit Analog Input without Flag			129	00
32	0	Analog Change Event – All Variations				
32	1	32 Bit Analog Change Event without Time				
32	2	16 Bit Analog Change Event without Time			129	17
41	1	32 Bit Analog Output Block	3,4,5,6	17, 28	129	Echo of request
41	2	16 Bit Analog Output Block	3,4,5,6	17, 28	129	Echo of request
50	1	Time and Date	2	07 quantity = 1		
60	0	Not Defined				
60	1	Class 0 Date	1	06		
60	2	Class 1 Date	1	06,07,08		
60	3	Class 2 Date	1	06,07,08		
60	4	Class 3 Date	1	06,07,08		
70	1	File Identifier				
80	1	Internal Indications	2	00 index = 7		

Protocolo de Comunicação: *DNP3.0 LEVEL 1***Taxa de Transmissão:** 1.200 a 57.600 (Auto Baud Rate)**Bits de Dados:** 8**Bit de Parada:** 1**Paridade:** Par, Ímpar e nenhuma.

Endereço DNP3	Faixa de Leitura	Bits Index	Estado	Descrição Point Name	Escrita Leitura	Escala
1	-50.0 – 250.0	-	-	Temperatura de alarme do sensor 1;	E / L	-1000:10
2	-50.0 – 250.0	-	-	Temperatura de alarme do sensor 2;	E / L	-1000:10
3	-50.0 – 250.0	-	-	Temperatura de alarme do sensor 3;	E / L	-1000:10
4	-50.0 – 250.0	-	-	Temperatura de desligamento do sensor 1	E / L	-1000:10
5	-50.0 – 250.0	-	-	Temperatura de desligamento do sensor 2	E / L	-1000:10
6	-50.0 – 250.0	-	-	Temperatura de desligamento do sensor 3	E / L	-1000:10
7	-50.0 – 250.0	-	-	Temperatura de acionamento da ventilação do sensor 1	E / L	-1000:10
8	-50.0 – 250.0	-	-	Temperatura de acionamento da ventilação do sensor 2	E / L	-1000:10
9	-50.0 – 250.0	-	-	Temperatura de acionamento da ventilação do sensor 3	E / L	-1000:10
10	0-100	-	-	Histerese de desligamento dos Alarmes	E / L	-
11	0-300	-	-	Histerese de desligamento da ventilação	E / L	-
12	0-20	-	-	Tempo de retardo para desligamento (minutos)	E / L	1:10

COMUNICAÇÃO SERIAL MONITEMP

Endereço DNP3	Faixa de Leitura	Bits Index	Estado	Descrição Point Name	Escrita Leitura	Escala
13	-	-		Registrador – Range de Saída Analógica:	-	
		0 a 4	0	Quando 0 define Saída Analógica de 0 a 1mA;	E / L	1:1
			1	Quando 0 define Saída Analógica de 0 a 5mA;	E / L	1:1
			2	Quando 0 define Saída Analógica de 0 a 10mA;	E / L	1:1
			3	Quando 0 define Saída Analógica de 0 a 20mA;	E / L	1:1
			4	Quando 0 define Saída Analógica de 4 a 20mA;	E / L	1:1
14	-	-		Registrador – Espelhamento da Saída analógica:	-	
		-	0	Quando 0, define saída analógica desabilitada;	E / L	1:1
		-	1	Quando 1, define saída analógica fixa na temperatura do sensor 1;	E / L	1:1
		-	2	Quando 2, define saída analógica fixa na temperatura do sensor 2;	E / L	1:1
		-	3	Quando 3, define saída analógica fixa na temperatura do sensor 3;	E / L	1:1
		-	4	Quando 4, define saída analógica fixa na temperatura mais alta;	E / L	1:1
15	-50.0 – 250.0	-		Temperatura mínima para saída Analógica	E / L	-1000:10
16	-50.0 – 250.0	-		Temperatura máxima para saída Analógica	E / L	-1000:10
17	-	-		Registro de comandos	-	
		0	0	Refrigeração forçada como AUT (automática);	E / L	-
			0	Refrigeração forçada como ON (manual);	E / L	-
		1	1	Reinicia valores de temperaturas máximas registradas;	E / L	-
		2	1	Reinicia o equipamento;	E / L	-

COMUNICAÇÃO SERIAL MONITEMP

Endereço DNP3	Faixa de Leitura	Bits Index	Estado	Descrição Point Name	Escrita Leitura	Escala
18	0 a 4	-	-	Registrador – Modo de apresentação do display DSPT	-	-
		-	0	Quando 0 define Display em Modo SCAN;	E / L	1:1
		-	1	Quando 1 define Display fixo Sensor 1;	E / L	1:1
		-	2	Quando 2 define Display fixo Sensor 2;	E / L	1:1
		-	3	Quando 3 define Display fixo Sensor 3;	E / L	1:1
		-	4	Quando 4 define Display fixo na temperatura mais Alta;	E / L	1:1
19	-	-	-	Registrador – Situação dos sensores	-	-
	-	0	0	Sensor 1 Desabilitado;	E / L	-
	-		1	Sensor 1 Habilitado;	E / L	-
	-	1	0	Sensor 2 Desabilitado;	E / L	-
	-		1	Sensor 2 Habilitado;	E / L	-
	-	2	0	Sensor 3 Desabilitado;	E / L	-
	-		1	Sensor 3 Habilitado;	E / L	-
20	-	-	-	Registrador – Exercício de ventilação – ON/OFF	-	-
	0 a 2	-	0	Exercício de Ventilação Desligado;	E / L	-
		-	1	Exercício de Ventilação Ligado;	E / L	-
21	-	-	-	Registro – Paridade de Comunicação	-	-
	0 a 1	-	0	Sem paridade;	E / L	-
		-	1	Paridade Par;	E / L	-
		-	2	Paridade ímpar;	E / L	-
22	-	-	-	Registrador – Seleção de Protocolo de Comunicação.	-	-
	0 a 2	-	0	DNP 3.0;	E / L	-
		-	1	DNP3.0 LEVEL 1;	E / L	-

Endereço DNP3	Faixa de Leitura	Bits Index	Estado	Descrição Point Name	Escrita Leitura	Escala
23	1-254	-	-	Endereço de rede serial	L	-
24	-50.0 – 250.0	-	-	Temperatura de alarme do sensor 1;	L	-1000:10
25	-50.0 – 250.0	-	-	Temperatura de alarme do sensor 2;	L	-1000:10
26	-50.0 – 250.0	-	-	Temperatura de alarme do sensor 3;	L	-1000:10
29	-50.0 – 250.0	-	-	Temperatura máxima atingida pelo sensor 1;	L	-1000:10
30	-50.0 – 250.0	-	-	Temperatura máxima atingida pelo sensor 2;	L	-1000:10
31	-50.0 – 250.0	-	-	Temperatura máxima atingida pelo sensor 3;	L	-1000:10
32	-	-	-	Registro – Situação dos Alarmes	-	
		0	1	Alarme do Sensor 1;	L	-
		1	1	Alarme do Sensor 2;	L	-
		2	1	Alarme do Sensor 3;	L	-
		3	1	Relé de Alarme Acionado;	L	-
33	-	-	-	Registro – Situação de Contagem para desligamento	-	
		0	1	Contagem de Desligamento do Sensor 1;	L	-
		1	1	Contagem de Desligamento do Sensor 2;	L	-
		2	1	Contagem de Desligamento do Sensor 3;	L	-
34	-	-	-	Registro – Situação de Desligamento.	-	
		0	1	Alarme do Sensor 1;	L	-
		1	1	Alarme do Sensor 2;	L	-
		2	1	Alarme do Sensor 3;	L	-
		3	1	Relé de Desligamento Acionado;	L	-

CONTINUAÇÃO DE TABELA COMUNICAÇÃO SERIAL EP3

Endereço DNP3	Faixa de Leitura	Bits Index	Estado	Descrição Point Name	Escrita Leitura	Escala
35	-	-		Registro – Situação de Ventilação	-	
		0	1	Ventilação do Sensor 1;	L	-
		1	1	Ventilação do Sensor 2;	L	-
		2	1	Ventilação do Sensor 3;	L	-
		3	1	Relé da Ventilação Acionado;	L	-
37	-	-		Registrador – Condições dos sensores	-	
	-	0	1	Falha do Sensor 1;	L	-
	-	1	1	Falha do Sensor 2;	L	-
	-	2	1	Falha do Sensor 3;	L	-
	-	3	1	Relé da Falha Acionado	L	-
38	0-9999			Lembrete de Senha;		