

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 249

Maximum 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		

Communication Protocol: DNP3.0 LEVEL 1

BaudRate: 1.200 a 57.600 (Auto Baud Rate)

Data Bits: 8

Stop Bits: 1

Parity: Even, Odd and none.

Address DNP3	Reading Range	Bits Index	State	Point Name	Writing Reading	Scale
1	-50.0 – 250.0	-	-	Sensor 1 alarm temperature;	W / R	-1000:10
2	-50.0 – 250.0	-	-	Sensor 2 alarm temperature;	W / R	-1000:10
3	-50.0 – 250.0	-	-	Sensor 3 alarm temperature;	W / R	-1000:10
4	-50.0 – 250.0	-	-	Sensor 1 shutdown temperature	W / R	-1000:10
5	-50.0 – 250.0	-	-	Sensor 2 shutdown temperature	W / R	-1000:10
6	-50.0 – 250.0	-	-	Sensor 3 shutdown temperature	W / R	-1000:10
7	-50.0 – 250.0	-	-	Sensor 1 fan trigger temperature	W / R	-1000:10
8	-50.0 – 250.0	-	-	Sensor 2 fan trigger temperature	W / R	-1000:10
9	-50.0 – 250.0	-	-	Sensor 3 fan trigger temperature	W / R	-1000:10
10	0-100	-	-	Alarm shutdown hysteresis	W / R	-
11	0-300	-	-	Ventilation shutdown hysteresis	W / R	-
12	0-20	-	-	Delay time for shutdown (minutes)	W / R	1:10

MONITEMP SERIAL COMMUNICATION

Address DNP3	Reading Range	Bits Index	State	Point Name	Writing Reading	Scale
13	-	-		Register - Analog Output Range:	-	
		0 a 4	0	When 0 defines Analog Output from 0 to 1mA;	W / R	1:1
			1	When 0 defines Analog Output from 0 to 5mA;	W / R	1:1
			2	When 0 defines Analog Output from 0 to 10mA;	W / R	1:1
			3	When 0 defines Analog Output from 0 to 20mA;	W / R	1:1
4	When 0 defines Analog Output from 4 to 20mA;	W / R	1:1			
14	-	-		Register - Analog Output Mirroring:	-	
		-	0	When 0, defines analog output disabled;	W / R	1:1
		-	1	When 1, sets analog output fixed at sensor 1 temperature:	W / R	1:1
		-	2	When 2, sets analog output fixed at sensor 2 temperature:	W / R	1:1
		-	3	When 3, sets analog output fixed at sensor 3 temperature:	W / R	1:1
-	4	When 4, sets fixed analog output at the highest temperature;	W / R	1:1		
15	-50.0 – 250.0	-		Minimum temperature for Analog output	W / R	-1000:10
16	-50.0 – 250.0	-		Maximum temperature for Analog output	W / R	-1000:10
17	-	-		command record	-	
		0	0	Forced cooling as AUT (automatic);	W / R	-
			1	Forced cooling as ON (manual);	W / R	-
		1	1	Resets recorded maximum temperature values;	W / R	-
2	1	Restarts the equipment;	W / R	-		

MONITEMP SERIAL COMMUNICATION

DNP3	Reading Range	Bits Index	State	Point Name	Write/Read	Scale
18	0 to 4	-		Register – DSPT display presentation mode	-	
		-	0	When 0 sets Display in SCAN Mode;	W / R	1:1
		-	1	When 1 sets Fixed Display Sensor 1;	W / R	1:1
		-	2	When 2 sets Fixed Display Sensor 2;	W / R	1:1
		-	3	When 3 sets Fixed Display Sensor 3;	W / R	1:1
		-	4	When 4 sets Fixed Display at Highest temperature;	W / R	1:1
19	-	-		Register – Sensors Status		
	-	0	0	Sensor 1 Disabled;	W / R	-
	-		1	Sensor 1 Enabled;	W / R	-
	-	1	0	Sensor 2 Disabled;	W / R	-
	-		1	Sensor 2 Enabled;	W / R	-
	-	2	0	Sensor 3 Disabled;	W / R	-
	-		1	Sensor 3 Enabled;	W / R	-
20	-	-		Register – Ventilation Exercises – ON/OFF	-	
	0 to 2	-	0	Ventilation Exercise Off;	W / R	-
		-	1	Ventilation Exercise On;	W / R	-
21	-	-		Register – Parity Communication	-	
	0 to 1	-	0	No Parity;	W / R	-
		-	1	Even Parity;	W / R	-
		-	2	Odd Parity;	W / R	-
22	-	-		Register – Communication Protocol Selection	-	
	0 to 2	-	0	MODBUS RTU;	W / R	-
		-	1	DNP3.0 LEVEL 1;	W / R	-

Address DNP3	Reading Range	Bits Index	State	Descrição Point Name	Writing Reading	Scale
23	1-254	-		Serial network address	R	-
24	-50.0 – 250.0	-		Sensor 1 alarm temperature;	R	-1000:10
25	-50.0 – 250.0	-		Sensor 2 alarm temperature;	R	-1000:10
26	-50.0 – 250.0	-		Sensor 3 alarm temperature;	R	-1000:10
29	-50.0 – 250.0	-		Maximum temperature reached by sensor 1;	R	-1000:10
30	-50.0 – 250.0	-		Maximum temperature reached by sensor 2;	R	-1000:10
31	-50.0 – 250.0	-		Maximum temperature reached by sensor 3;	R	-1000:10
32	-	-		Register – Alarmas Situation	-	
		0	1	Sensor 1 alarm;	R	-
		1	1	Sensor 2 alarm;	R	-
		2	1	Sensor 3 alarm;	R	-
33	-	-		Register – Counting status for shutdown	-	
		0	1	Sensor Shutdown Count 1;	R	-
		1	1	Sensor 2 Shutdown Count;	R	-
		2	1	Sensor Off Count 3;	R	-
34	-	-		Register – Shutdown Status.	-	
		0	1	Sensor 1 alarm;		-
		1	1	Sensor 2 alarm;	R	-
		2	1	Sensor 3 alarm;	R	-
		3	1	Turn-Off Relay Activated;	R	-

MONITEMP SERIAL COMMUNICATION

DNP3	Reading Range	Bits Index	State	Point Name	Write/Read	Scale
35	-	-	-	Register – Ventilation Fan	-	-
		0	1	Sensor Ventilation 1;	R	-
		1	1	Sensor Ventilation 2;	R	-
		2	1	Sensor Ventilation 3;	R	-
		3	1	Ventilation Relay Activated;		-
37	-	-	-	Register – Sensor Conditions	-	-
	-	0	1	Sensor 1 Failure;	R	-
	-	1	1	Sensor 2 Failure;	R	-
	-	2	1	Sensor 3 Failure;	R	-
	-	3	1	Fault Relay Activated	R	-
38	0-9999	-	-	Password reminder;	R	-