DNP V3.0
DEVICE PROFILE DOCUMENT

Vendor Name: Licht Eletro Eletrônica Ltda.
Device Name: MFC200/IP or MFC300/IP

Highest DNP Level Supported:
   For Requests: Level 1
   For Resposes: Level 1
	Device Function:
	   ☐ Master
	   ☑ Slave

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

For static object READ (function 1) requests, qualifier codes 0x00 and 0x01 (range), 0x06 (all values), 0x07 and 0x08 (limited quantity), 0x17 and 0x28 (index) are supported.

For static object WRITE (function 2) requests, qualifier codes 0x00 and 0x01 (range), 0x17 and 0x28 (index) are supported. Exceptionally, qualifier codes 0x07 and 0x08 (limited quantity) are supported for the Time and Date (object group 50, variation 1) objects, with quantity=1.

Maximum Data Link Frame Size (octets):
   Transmitted: 292
   Received: 292
	Maximum Application Fragment Size (octets):
	   Transmitted: 249
	   Received: 249

Maximum Data Link Re-tries:
   ☑ None
   ☐ Fixed
   ☐ Configurable
	Maximum Application Layer Retries:
	   ☑ None
	   ☐ Configurable

Requires Data Link Layer Confirmation:
   ☑ Never
   ☐ Always
   ☐ Sometimes
   ☐ Configurable

Requires Application Layer Confirmation:
   ☐ Never
   ☐ Always
   ☑ When reporting event data
   ☑ When sending multi-fragment responses
   ☐ Sometimes
   ☑ Configurable between event data/multi-fragment and always

Timeouts while waiting for:

Data Link Confirm:	☑ None	☐ Fixed at ____	☐ Variable	☐ Configurable
Complete Appl. Fragment:	☑ None	☐ Fixed at ____	☐ Variable	☐ Configurable
Application Confirm:	☑ None	☐ Fixed at ____	☐ Variable	☐ Configurable
Complete Appl. Response:	☑ None	☐ Fixed at ____	☐ Variable	☐ Configurable

Sends/Executes Control Operations:

WRITE Binary Outputs	☐ Never	☑ Always	☐ Sometimes	☐ Configurable
SELECT/OPERATE	☑ Never	☐ Always	☐ Sometimes	☐ Configurable
DIRECT OPERATE	☑ Never	☐ Always	☐ Sometimes	☐ Configurable
DIRECT OPERATE - NOACK	☑ Never	☐ Always	☐ Sometimes	☐ Configurable
Count > 1	☑ Never	☐ Always	☐ Sometimes	☐ Configurable

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Pulse On	☑ Never ☐ Always ☐ Sometimes ☐ Configurable
Pulse Off	☑ Never ☐ Always ☐ Sometimes ☐ Configurable
Latch On	☑ Never ☐ Always ☐ Sometimes ☐ Configurable
Latch Off	☑ Never ☐ Always ☐ Sometimes ☐ Configurable
Queue	☑ Never ☐ Always ☐ Sometimes ☐ Configurable
Clear Queue	☑ Never ☐ Always ☐ Sometimes ☐ Configurable

Reports Binary Input Change Events when no specific variation requested:
- ☑ Never
- ☐ Only time-tagged
- ☐ Only non-time-tagged
- ☐ Configurable

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

Sends Unsolicited Responses:
- ☑ Never
- ☐ Configurable
- ☐ Only certain objects
- ☐ ENABLE/DISABLE UNSOLICITED

Sends Static Data in Unsolicited Responses:
- ☑ Never
- ☐ When Device Restarts
- ☐ When Status Flags Change

Default Counter Object/Variation:
- ☑ No Counters Reported
- ☐ Configurable
- ☐ Default Object:
     Default Variation:
- ☐ Point-by-point list attached

Counters Roll Over at:
- ☑ No Counters Reported
- ☐ Configurable
- ☐ 16 Bits
- ☐ 32 Bits
- ☐ Other Value _____
- ☐ Point-by-point list attached

Sends Multi-Fragment Responses: ☑ Yes ☐ No

Level 1 Implementation Table

OBJECT			REQUEST (slave must parse)		RESPONSE (master must parse)	
Obj	Var	Description	Func Codes (dec)	Qual Codes (hex)	Func Codes (dec)	Qual Codes (hex)
1	0	Binary Input – All Variations	1	00, 01, 06, 07, 08, 17, 28		
1	2	Binary Input with Status	1	00, 01, 06, 07, 08, 17, 28	129	00, 01
10	0	Binary Output – All Variations	1	00, 01, 06, 07, 08, 17, 28		
10	2	Binary Output with Status	1	00, 01, 06, 07, 08, 17, 28	129	00, 01
10	2	Binary Output with Status	2	00, 01, 17, 28		
30	0	Analog Input – All Variations	1	00, 01, 06, 07, 08, 17, 28		
30	2	16-Bit Analog Input	1	00, 01, 06, 07, 08, 17, 28	129	00, 01
40	0	Analog Output with Status – All Variations	1	00, 01, 06, 07, 08, 17, 28		
40	2	16-Bit Analog Output with Status	1	00, 01, 06, 07, 08, 17, 28	129	00, 01
40	2	16-Bit Analog Output with Status	2	00, 01, 17, 28		
50	0	Time and Date – All Variations	1	00, 01, 06, 07, 08, 17, 28		
50	1	Time and Date	1	00, 01, 06, 07, 08, 17, 28	129	07, 08 (quantity = 1)
50	1	Time and Date	2	00, 01, 17, 28		
50	1	Time and Date	2	07, 08 (quantity = 1)		
60	1	Class 0 Data	1	06		
60	2	Class 1 Data	1	06, 07, 08		
60	3	Class 2 Data	1	06, 07, 08		
60	4	Class 3 Data	1	06, 07, 08		
80	1	Internal Indications	2	00, 01, 17, 28 (index = 7)		
No object			13			

Analog Input Objects
(16-Bit Analog Input)
(Object 30, Variation 2)

Point	Description	Range
0	Sensor 1 Position	2 to 50
1	Sensor 1 Resistance	0.0 to 255.0 Ω
2	Sensor 2 Position	2 to 50
3	Sensor 2 Resistance	0.0 to 255.0 Ω
4	Sensor 3 Position	2 to 50
5	Sensor 3 Resistance	0.0 to 255.0 Ω
6	Sensor 4 Position	2 to 50
7	Sensor 4 Resistance	0.0 to 255.0 Ω
8	Sensor 5 Position	2 to 50
9	Sensor 5 Resistance	0.0 to 255.0 Ω
10	Sensor 6 Position	2 to 50
11	Sensor 6 Resistance	0.0 to 255.0 Ω

Analog Output Objects
(16-Bit Analog Output Status)
(Object 40, Variation 2)

Point	Description	Range
200	Number of positions	2 to 50
201	Resistance per step	3.0 to 20.0 Ω
202	Indication Type	0: position 1: resistance
203	Number of Active Sensors	1 to 6
204	Indication format	0: 1 ... n 1: -x ... +y 2: +x ... -y 3: xL ... N ... yR 4: xR ... N ... yL
205	Neutral position	1 to 50
220	Current Loop – Output Scale	0: 0-1 mA 1: 0-5 mA 2: 0-10 mA 3: 0-20 mA 4: 4-20 mA

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