SW2500RF/DM2500RF
Application Data Objects

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Content

Revision history

Revision	Date	Changes
0.1.0	2016/04/11	Preliminary release
0.1.1	2016/04/25	Corrected inverted DataID for indicator Config ON and OFF
0.1.2	2016/05/03	Grammar and typo corrections

1. Scope

This document defines the supported API application data objects for the SW2500RF/DM2500RF wireless light switch/dimmer.

2. Targeted audience

This document was created for professionals with a good knowledge of communication protocols and embedded systems programming.

3. Legal / Confidentiality

4. References

1) GT125 Public API Specifications

5. Application data objects

Output Intensity

DataID	0x00001000
Name	Output Intensity
Accept Read	Yes
Accept Write	Yes
Accept Report	No
Size	1 bytes
Format	8 bit unsigned integer
Scale	1 = 1%
Range	0 = 0% OFF 1@100 = ON 101 = Recall last dim*
Description	Output state 0 = relay OFF 100 = relay ON (SW2500RF) 1@100 = Dimmer intensity in % (DM2500RF) 101 = Recall last dimmer level*

* Only available on DM2500RF (Dimmer)

Light Mode

DataID	0x00001009
Name	Light Mode
Accept Read	Yes
Accept Write	Yes
Accept Report	No
Size	1 byte
Format	Enum.
Scale	See description
Range	See description
Description	Light mode. "Auto" mode is available only if the device has received the current time. Otherwise, the device will set the mode to "Manual".

Value	Description
1	Manual (Hold) The device keeps the output fixed to the actual output intensity.
2	Auto (Schedule) The output intensity follows the schedule.
3	Random The device performs a simulation of presence
130	Bypass Auto The device is in temporary hold until the next scheduled period.

Indicator Config ON

DataID	0x01800910
Name	Indicator Config ON
Accept Read	Yes
Accept Write	Yes
Accept Report	No
Size	4 bytes
Format:	Struct
[Byte 0] Intensity	8 bit unsigned integer
[Byte 1] Red	8 bit unsigned integer
[Byte 2] Green	8 bit unsigned integer
[Byte 3] Blue	8 bit unsigned integer
Scale:	See description
Intensity	1 = 1%
Red	1 = 1
Green	1 = 1
Blue	1 = 1
Range:	
Intensity	0 @ 100%
Red	0 @ 255
Green	0 @ 255
Blue	0 @ 255
Description:	
Intensity	Brightness of the LED indicator when the relay is ON
Red	RGB color of the LED indicator when the relay is ON
Green	
Blue	

Indicator Config OFF

DataID	0x00800910
Name	Indicator Config OFF
Accept Read	Yes
Accept Write	Yes
Accept Report	No
Size	4 bytes
Format:	Struct
[Byte 0] Intensity	8 bit unsigned integer
[Byte 1] Red	8 bit unsigned integer
[Byte 2] Green	8 bit unsigned integer
[Byte 3] Blue	8 bit unsigned integer
Scale:	See description
Intensity	1 = 1%
Red	1 = 1
Green	1 = 1
Blue	1 = 1
Range:	
Intensity	0 @ 100%
Red	0 @ 255

Green	0 @ 255
Blue	0 @ 255
Description:	
Intensity	Brightness of the LED indicator when the relay is OFF
Red Green Blue	RGB color of the LED indicator when the relay is OFF

Keyboard Lock

DataID	0x00000902
Name	Keyboard lock
Accept Read	Yes
Accept Write	Yes
Accept Report	No
Size	1 byte
Format	Enum
Scale	See description
Range	See description
Description	Configure the device keyboard lock. When the keyboard is locked, the user cannot change the device output's intensity. Changes through the wireless interfaces (API or Web) are still allowed.

Value	Description
0	Unlocked
1	Locked

Minimum output

DataID	0x00001001
Name	Minimum output*
Accept Read	Yes
Accept Write	Yes
Accept Report	No
Size	1 bytes
Format	8 bit unsigned integer
Scale	1 = 1
Range	0@100
Description	Allow to adjust the minimum power applied to the load or the minimum brightness level 10 = typical value for LED 16 = Typical value for incandescent Typical values are in the range of 10 @25 Lower values represent lower power applied

* Only available on DM2500RF (Dimmer)

Local Time

DataID	0x00000600
Name	Local Time
Accept Read	Yes
Accept Write	Yes
Accept Report	Yes
Size	3 bytes
Format:	Struct
[Byte 0] Seconds	8 bit unsigned integer
[Byte 1] Minutes	8 bit unsigned integer
[Byte 2] Hours	8 bit unsigned integer
Scale:	
Seconds	1 = 1 second
Minutes	1 = 1 minute
Hours	1 = 1 hour
Range:	
Seconds	0 @ 59
Minutes	0 @ 59
Hours	0 @ 23 (Normal), 128 @ 151 (DST active)
Description:	Local time in 24h format. Must be sent every 24h.
Hours	The msb (bit 7) in the "Hours" byte is used to distinguish between standard (0) or Daylight Saving Time (1).

Local Date

DataID	0x00000601
Name	Local Date
Accept Read	Yes
Accept Write	Yes
Accept Report	Yes
Size	4 bytes
Format:	Struct
[Byte 0] Day of week	Enum
[Byte 1] Day of month	8 bit unsigned integer
[Byte 2] Month	8 bit unsigned integer
[Byte 3] Year	8 bit unsigned integer
Scale:	See description
Day of week	1 = 1
Day of month	1 = 1
Month	1 = 1
Year	1 = 1
Range:	
Day of week	0 @ 6
Day of month	1 @ 31
Month	1 @ 12
Year	0 @ 99

Description:	Local date.
Day of week	Values for the day of week:

Value	Description
0	Monday
1	Tuesday
2	Wednesday
3	Thursday
4	Friday
5	Saturday
6	Sunday

Year	Years are represented as starting from the 2000s.

Subscription Level

DataID	0x00000F01
Name	Subscription Level
Accept Read	Yes
Accept Write	Yes
Accept Report	No
Size	16 bytes
Format:	Array
[Byte 0] Reserved	8 bit unsigned integer
[Byte 1] Reserved	8 bit unsigned integer
[Byte 2] Reserved	8 bit unsigned integer
[Byte 3] Reserved	8 bit unsigned integer
[Byte 4] Relay Turn-ON	8 bit unsigned integer
[Byte 5] Relay Turn-OFF	8 bit unsigned integer
[Byte 6] Intensity Changed*	8 bit unsigned integer
[Byte 7] Reserved	8 bit unsigned integer
[Byte 8] Reserved	8 bit unsigned integer
[Byte 9] Reserved	8 bit unsigned integer
[Byte 10] Reserved	8 bit unsigned integer
[Byte 11] Reserved	8 bit unsigned integer
[Byte 12] Reserved	8 bit unsigned integer
[Byte 13] Reserved	8 bit unsigned integer
[Byte 14] Reserved	8 bit unsigned integer
[Byte 15] Reserved	8 bit unsigned integer
Scale	1 = 1
Range	0@2
Description	Subscription level Configure the device to send a message when events occur. The subscription level message is used to enable or disable the option of sending messages when events occur. The subscription level message contains 16 bytes. Each byte is associated to an event. Each event can have one of the following subscription level:

Value	Description
0	No message
1	Subscription timer active
2	Always send a message

The table below indicates the generated Data Notification Message and associated DataID:

Events	DataID	Name
Relay Turn-ON	0x00001000	Output Intensity
Relay Turn-OFF	0x00001000	Output Intensity
Intensity Changed*	0x00001000	Output Intensity

*Only available in DM2500RF (Dimmer)

Subscription Timer

DataID	0x00000F00
Name	Subscription Timer
Accept Read	Yes
Accept Write	Yes
Accept Report	No
Size	1 bytes
Format	8bit unsigned integer
Scale	1 = 1minute
Range	0-255
Description	Subscription timer enables/disables the Subscription Level 1 messages to be sent. The value read or written represent the time in minutes for which the subscription will remain active. 0 = Subscription Level 1 disabled 1-255 = Remaining time in minutes for which Subscription Level 1 is enabled

6. Implementation details

Schedule

Currently, the schedule can only be set using our neviweb® interface.

However, it is possible to run the device's schedule when the light mode is set to AUTO. It is also required that the time is sent to the devices.

Subscription

Subscriptions allow the device to send a message when a pre-determined event occurs on the device.

The Subscription mechanism allows operating "On Events" instead of "Polling".

A list of events is available for each product.
The SW2500RF events are:

- Relay Turn-ON
- Relay Turn-OFF

The subscriptions are enabled / disabled by writing the Subscriptions Level message. The available subscription levels are:

- No message
- Subscription timer active
- Always send a message

No message:
Subscription is disabled and no message is sent when the event occurs.

Subscription timer active
A message is sent when the event occur AND when the subscription timer is active.
This subscription level is intended to activate a temporary "On Events" operation. This is well suited for applications that temporarily display information of a device, for example a web page displaying device statuses.
To enable this subscription level, the Subscription Timer must also be written with the number of minutes the subscription is to remain active.

Always send a message
A message is sent when the event occurs.

An enabled event subscription will trigger a message to be sent when the event occurs. The message associated to an event is predetermined.

For example, the message sent by a SW2500RF when the event "Relay Turn-ON" occurs is message type "Data Notification Message" containing "Output Intensity 100%".

The message sent by a SW2500RF when the event "Relay Turn-OFF" occurs is message type "Data Notification Message" containing "Output Intensity 0%".

See the Subscription Level message for more details.