Certified Capability List

This Capability List is based on a certification session performed by the *TALQ Certification Tool (v2.1.0) on 2019-07-17 15:53:03.164 +0200.*

The Capability List is a consolidated list of TALQ features which are implemented in a product.

The tool has succesfully performed *30 tests*.

Product details

Product Name	GW-test
Company	Schréder
Type	GATEWAY
Notes	
Generated on	2019-07-17 15:53:03.164 +0200
Certification performed by app version:	2.1.0

Functional tests

The Functional Tests help customers understand the capabilities of a TALQ-certified product. All functional test cases are presented to provide comprehensive context, and successful completion of each test is indicated with a tick mark. Each Functional Test is related to a set of required TALQ technical test cases.

Configuring **3 of 11**

Support light point control features ✔

The Gateway successfully connects to a CMS and transmits its capabilities for light point control features and services.   **CFG-1**

Support cabinet control lighting features

The Gateway successfully connects to a CMS and transmits its capabilities for cabinet control lighting features and services.   **CFG-2**

Support sensor-based light point control features

The Gateway successfully connects to a CMS and transmits its capabilities for sensor-based light point control features and services.   **CFG-3**

Discovery of the network of devices ✔

The Gateway transmits all its devices to the CMS together with their configuration and asset information.   **CFG-4**

Initialize light point electrical alarm thresholds

The Gateway is able to receive the light point electrical alarm thresholds from the CMS, including Lamp Voltage Too High/Low, Lamp Current Too High/Low, Active Power Too High/Low and Power Factor Too Low   **CFG-5**

Initialize and change the cabinet control alarm thresholds

The Gateway is able to receive the cabinet control electrical alarm thresholds from the CMS, including < to be defined >   **CFG-6**

Initialize and change the light point parameters

The Gateway is able to receive the light point parameters from the CMS.   **CFG-7**

Initialize and change a group of luminaires ✔

The Gateway is able to handle a command from the CMS to set or change a group of light points to assign them a control program.   **CFG-8**

Change the sampling frequency for measurements

The Gateway is able to change the sampling of measurements and properly reflected in the next data log sent to the CMS.   **CFG-9**

Change the reporting frequency for measurements

The Gateway is able to change the reporting frequency (how often it sends data logs to the CSM) for measurements.   **CFG-10**

Update the firmware of the hardware devices

The Gateway supports data package service and accepts a data package to update firmware on a physical device.   **CFG-11**

Monitoring   **0 of 11**

Measure and report basic electrical values (Current/Voltage/Active Power/Power Factor)

The Gateways sends "valid values" for electrical values including mains voltage, current, active power and power factor to the CMS using one of the data logging service.   **MTG-1**

Measure and report cumulating energy counter

The Gateways sends "valid growing values" for energy counter to the CMS using one of the data logging service.   **MTG-2**

Report lamps' number of operating hours

The Gateways sends "valid growing values" for lamp operating hours counter to the CMS using one of the data logging service.   **MTG-3**

Report lamps' number of switch-on counter

The Gateways sends "valid growing values" for lamp switch-on counter to the CMS using one of the data logging service.

MTG-4

Report lamps' number of supply loss counter

The Gateways sends "valid growing values" for supply loss count to the CMS using one of the data logging service.

MTG-5

Monitor the lamp level feedback when a manual override command is sent

The Gateway receives a manual override command, sends it to the device and can report, using on-demand read as well as a data logger service, that the lamp level feedback is getting close to the command.

MTG-6

Report temperature

The Gateways sends temperature values to the CMS using one of the data logging service.

MTG-8

Report presence detection

The Gateways sends presence detection values to the CMS using one of the data logging service.

MTG-9

Report noise level

The Gateways sends noise level values to the CMS using one of the data logging service.

MTG-10

Report light level

The Gateways sends light level values to the CMS using one of the data logging service.

MTG-11

Report firmware updating process

The Gateway is able to report the firmware update events

MTG-12

Controlling   **0 of 7**

Manual control over a light point

The Gateway properly receives and handles a manual override command sent by the CMS for one single light point   **CTR-1**

Manual control over a group of light points

The Gateway properly receives and handles a manual override command sent by the CMS for a group of light points   **CTR-2**

Manual control with a delay

The Gateway properly receives and handles a manual override command that includes a delay, sent by the CMS for one single light point.   **CTR-3**

Manual control with a ramp

The Gateway properly receives and handles a manual override command that includes a rampup, sent by the CMS for one single light point.   **CTR-4**

Automatic switch light on/off based on photocell value

The Gateway can properly execute a control program that switches the light ON and OFF based on a local photocell value on a single light point.   **CTR-5**

Automatic change of light level when presence detected

The Gateway can properly execute a control program that changes the light dimming level based on a local presence sensor on a single light point.   **CTR-6**

Automatic change of light level when noise detected

The Gateway can properly execute a control program that changes the light dimming level based on a local noise sensor on a single light point.   **CTR-7**

Alarming   **0 of 5**

Report lighting alarms to the CMS

The Gateway can produce lighting alarms and send them to the CMS using one of the data **ALR-1**
logger services.

Report electrical alarms to the CMS

The Gateway can produce electrical alarms and send them to the CMS using one of the **ALR-2**
data logger services.

Report invalid program and calendar

The Gateway can produce invalid calendar and control program alarms and send them to **ALR-3**
the CMS using one of the data logger services.

Report activity for sensor based lighting

The Gateway can send an event in case of activity detected and send them to the CMS **ALR-4**
using one of the data logger services.

Request the status of the alarm

The Gateway can report the status of the alarms as a response to a request from the CMS **ALR-5**

Programming   **0 of 9**

Fix time switching+dimming control program that applies to all days in the year

The Gateway can receive and execute a control program that switches and dims a light **PRG-1**
point at fix time all days in the year.

Astro-clock switching + fix time dimming control program that applies to all days in the year

The Gateway can receive and execute a control program that switches a light point at sunrise/sunset +/- few minutes and dim it during an astro-clock active period, all days in the year.　**PRG-2**

Photocell switching + fix time dimming control program that applies to all days in the year

The Gateway can receive and execute a control program that switches a light point when photocell indicates darkness and dim it during the photocell active period, all days in the year.　**PRG-3**

Photocell and astro-clock switching + fix time dimming control program that applies to all days in the year

The Gateway can receive and execute a control program that switches a light point when photocell indicates darkness or at sunrise/sunset +:- few minutes (the earlier for switch ON/OFF) and dim it during the photocell active period, all days in the year.　**PRG-4**

Part night switching program

The Gateway can receive and execute a control program that switches a light point OFF at fixed time in the middle of the night.　**PRG-5**

Support exceptional periods (e.g., Sept 10th to Oct 16th)

The Gateway can receive and execute a calendar that has a default rule for all days in the year and another higher priority calendar that applies from DAY 1 to DAY 2.　**PRG-6**

Support exceptional week days (e.g., every Saturday and Sunday)

The Gateway can receive and execute a calendar that has a default rule for all days in the year and another higher priority calendar that applies every Saturday night and Sunday night, every day in the year.　**PRG-7**

Support exceptional week days (e.g., every Saturday and Sunday) and exceptional periods (e.g., Sept 10th to Oct 16th)

PRG-8

The Gateway can receive and execute a calendar that has a default rule for all days in the year, another higher priority calendar that applies every Saturday night and Sunday night, every day in the year and another higher priority calendar that applies to every saturday between DAY 1 and DAY 2.

Support dynamic lighting program based on sensor detection

The Gateway can receive and execute a control program that has rule based on presence sensor.   **PRG-9**

Capability list

Security

Enabled ✔

Functions

Basic

The Basic function describes the properties related to the physical asset to which the logical device is associated, such as identification (assetId) and location information.

Attributes

#	Attribute	Description
✔	displayName	Display name of the asset.
✔	assetId	Customer identifier of the asset. If multiple devices have the same assetId it means they belong to the same asset.
✔	serial	Serial number of the device.
✔	hwType	Hardware type of the device.

✔	location	Latitude, Longitude and Altitude. [DEPRECATED: This attribute has been deprecated and it will be removed in the next MAJOR release. Please use the new LocationSensorFunction.location instead.]
✔	timeZone	Time zone of the device. Time zone may be expressed in two formats. <timezone> where <timezone> is a time zone as defined in the zone.tab of the IANA timezone database [IANA]; and stdoffset[dst[offset][,start[/time],en d[/time]]] as defined by the Open Group for posix systems [POSIX]. [DEPRECATED: This attribute has been deprecated and it will be removed in the next MAJOR release. Please use the new TimeFunction.timeZone instead.]

Events

#	Event type	Description
✔	deviceReset	The physical device containing the logical device was reset

Communication

The Communication Function contains attributes related to the communication within the ODN, and between ODN devices and Gateways. Although communication within the ODN is outside the scope of the TALQ Smart City Protocol, this Function enables access to a minimum set of configuration and state information of the ODN communication interface in order to facilitate system management from the CMS.

Attributes

#	Attribute	Description
✔	logicalAddress	Logical address for communication within the ODN scope (IP address, Short Address, ...).

Events

#	Event type	Description
✔	communicationFailure	This event is generated by the ODN when the communication function is not operating as expected

Lamp Actuator

The Lamp Actuator function includes attributes related to lighting control and it represents the smallest unit for control purposes. In practice, however, a Lamp Actuator function can control combinations of several lamps and control gear but all in the same way, as if they are all one individual unit.

Attributes

#	Attribute	Description
✔	lampTypeId	TALQ Address of an existing lampType.

Events

#	Event type	Description
✔	lightStateChange	Light state has changed

Lamp Monitor

The Lamp Monitor function enables monitoring of lamp parameters. A Lamp Monitor function should be associated with a specific lamp/control gear combination. Multiple lamp monitor functions may be implemented by a single device.

Attributes

#	Attribute	Description
✔	supplyVoltage	RMS supply volts when supplyType is AC, supply voltage (V) when supplyType is DC.
✔	supplyCurrent	RMS supply current (A) when supplyType is AC, supply current (A) when supplyType is DC.
✔	activePower	Active power.
✔	powerFactor	Active power/Apparent power.
✔	activeEnergy	Cumulative active energy (since installation or counter reset).

Events

#	Event type	Description
✔	lampPowerTooHigh	Lamp power is greater than expected lamp power + lampPowerTolerance
✔	lampPowerTooLow	Lamp power is smaller than expected lamp power - lampPowerTolerance
✔	powerFactorTooLow	The power factor is below powerFactorThreshold
✔	lampFailure	The lamp is not operating as it is supposed to (e.g. the lamp is broken). This event shall be used to detect a situation where the lamp (or LED module(s)) should be lit, but produce no light. This could be detected by the current flowing or power consumed.

Services

On Demand Data Request Service

This service provides the mechanism to access attributes in the logical devices by requesting attribute values from the ODN

Group Management Service

This service provides the mechanisms to define and manage groups

Options

#	Option	Value	Description

Test Service

This service provides a mechanism to reduce the human intervention during the certification tests, enabling the certification tests to maximise automation

Objects

Lamp type

The lamp type consists of a set of attributes that together characterize a given lamp and control gear combination. When modelling a Lighting ODN with many luminaires, there are attributes' values that are the same for many lamps, e.g.: the expected consumed power of the lamp and control gear (wattage) would be the same for many lamp monitors. The concept of LampType is created to avoid including the same attributes' values in every lamp monitor and actuator of the same type, for this reason a reference to a lamp type is included in the lamp actuator and lamp monitor functions, as these attributes are required for proper operation of these functions. Thus, the definition of lamp types enables the CMS to efficiently set attributes in many lamp actuators/monitors by just setting the address of the 'lampType' attribute in each function. Lamp types can be created by both CMS and TALQ Gateway as separate entities. The TALQ Gateway shall announce any lamp type it has to the CMS as part of the initial configuration. In addition to the initial configuration, the TALQ Gateway shall also announce the lamp type whenever it changes. The CMS may also send lamp types to the TALQ Gateway.

Properties

#	Property	Description
✔	name	Descriptive name of the lamp type
✔	address	TALQ Address of the lamp type
✔	controlType	Type of control/dimming interface between the lamp actuator function and the control gear or within the control gear in case lamp actuator is embedded in the control gear

Event log data

Event log data contains a single event, with eventType and value, in each single log entry. It also includes information about whether the log denotes the start or end of the event. Furthermore additional information can be added with the info attribute.

Properties

#	Property	Description
✔	eventType	Identifier of event reported
✔	srcAddress	Address of Logical device or function within a logical device which is the source of the event or to which this event applies

Command

A command defines a type of control action that can be applied to a function. Commands can be generated by a manual override action or by a control program.

Properties

#	Property	Description
✔	state	Light state to be applied to the lamp actuator
✔	reason	Indicates the command was triggered by override, sensor or control program
✔	cmsRefId	CMS reference, which can be used for data logging. The cmsRefId in a Command is a free text to be used by the CMS for any purpose, e.g: to differentiate contexts. It is a token that allows the CMS to match client requests to the original notification.
✔	start	Time when the control action resulting from command shall start. This attribute is used only with override commands to set a time to start an override action. If not specified, the override command starts immediately.

✔ expiration　Time when the control action resulting from command shall be terminated. This attribute is used only with override commands to set a time to stop an override action. After the expiration of an override command, the system should go back to the state defined by the active control program. If not specified, there is no expiration for the override command.

✳: The Certification Test Tool is designed to provide a high level of confidence that complementary systems can communicate successfully. As both the protocol and the test tool evolve, all mandatory and other core tests are confirmed by comparison with real-life scenarios (plug-fest or similar). Some tests of optional and more peripheral features may not yet have been confirmed in this way; such features are identified with an asterisk (*).

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