Certified Capability List

This Capability List is based on a certification session performed by the *TALQ Certification Tool (v2.7.1-online.6) on 2026-11-13 11:57:58.710 +0100.*

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

The tool has succesfully performed *53 tests*.

Product details

Product Name	Luminizer Gateway
Company	Luminext B.V.
Type	GATEWAY
Notes	
Generated on	2026-11-13 11:57:58.710 +0100
Supported profiles	• Lighting
API version certified:	2.7.1
Certification performed by app version:	2.7.1-online.6

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 4 of 11

Connect to CMS and announce light point control capabilities ✔

The Gateway successfully connects to a CMS and transmits its capabilities (i.e. supported features) for light point configuration, control, programming and monitoring. **CONFIG-1**

Connect to CMS and announce cabinet control capabilities

The Gateway successfully connects to a CMS and transmits its capabilities (i.e. supported features) for lighting cabinet controller configuration, control, programming, and monitoring. **CONFIG-2**

Connect to CMS and announce dynamic sensor-based lighting capabilities

The Gateway successfully connects to a CMS and transmits its capabilities (i.e. supported features) for dynamic lighting based on sensor. **CONFIG-3**

Announce the list of light point controllers on the network ✔

The Gateway transmits all the devices (light point controllers, cabinet controller and any other type of device) that are known on the network, to the CMS together with their configuration and asset information. **CONFIG-4**

Configure light point controllers electrical alarm thresholds from the CMS ✔

The Gateway can receive the electrical alarm thresholds from the CMS and assign them to selected light point controllers. This includes Lamp Voltage Too High/Low, Lamp Current Too High/Low, Active Power Too High/Low and Power Factor Too Low. **CONFIG-5**

Configure the cabinet controllers alarm thresholds from the CMS

The Gateway can receive the electrical alarm thresholds from the CMS and assign them to selected cabinet controllers. **CONFIG-6**

Configure the light point controllers' parameters from the CMS

The Gateway can receive configuration parameters from the CMS and assign them to selected light point controllers. **CONFIG-7**

Create and change group of light point controllers from the CMS ✔

CONFIG-8

The Gateway can handle a command from the CMS to create or to change a group of light point controllers to assign them a control program.

Change the sampling frequency for telemetry measurements

The Gateway can change the sampling of telemetry measurements on light point controllers and cabinet controllers and properly reflected in the next data log sent to the CMS. **CONFIG-9**

Change the reporting frequency for telemetry measurements

The Gateway can change the reporting frequency, i.e. how often it sends data logs to the CMS, for telemetry measurements on light point controllers. **CONFIG-10**

Update the firmware of the physical devices

The Gateway supports data package service and accepts a data package to update firmware on a physical device such as a light point controller. **CONFIG-11**

Monitoring **1 of 11**

Report basic electrical values to the CMS

The Gateway measures mains voltage, current, active power, and power factor, and sends these values to the CMS via the data logging service. **MONITOR-1**

Report cumulative energy usage (kWh)

The Gateway sends the total energy used as a cumulative counter (kWh) to the CMS via the data logging service. **MONITOR-2**

Report lamp operating hours (runtime)

The Gateway reports each lamp's total hours of operation as a cumulative counter to the CMS via the data logging service. **MONITOR-3**

Report lamp switch-on count

MONITOR-4

The Gateway reports how many times each lamp has been switched on, as a cumulative counter to the CMS via the data logging service.

Report power loss count

The Gateway reports the total number of power interruptions detected for each lamp as a cumulative counter to the CMS via the data logging service. **MONITOR-5**

Confirm dimming level after manual override command ✔

When a manual override is sent (e.g., set dimming level to X%), the Gateway forwards the command to the device and confirms, via on-demand request and data-logging service, that the actual dimming level matches (or closely follows) the requested level. **MONITOR-6**

Report temperature values

The Gateway sends temperature measurements from connected devices or sensors to the CMS via the data logging service. **MONITOR-8**

Report presence detection

The Gateway sends presence events or values from sensors to the CMS via the data logging service. **MONITOR-9**

Report ambient noise level

The Gateway sends noise level values to the CMS via the data logging service. **MONITOR-10**

Report dimming levels

The Gateway sends dimming level values to the CMS via the data logging service. **MONITOR-11**

Report firmware update status and progress

The Gateway reports firmware update events (start, progress, completion or failure) to the CMS. **MONITOR-12**

Controlling

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Manually set a single light point ✔

The Gateway accepts a manual override command from the CMS (e.g., set dimming level or switch ON/OFF) and applies it to one specific light point.

CONTROL-1

Manually set the dimming level on a group of light points ✔

The Gateway accepts a manual override command from the CMS and applies it to a defined group of light points.

CONTROL-2

Manually set the dimming level on a single light point with a delay

The Gateway accepts a manual override command from the CMS that includes a delay (e.g., "in 10 minutes") and applies the change to one light point at the requested time.

CONTROL-3

Manually change dimming level with a smooth ramp

The Gateway accepts a manual override command from the CMS that includes a ramp-up/ramp-down time and adjusts the dimming level on one light point smoothly to the requested level.

CONTROL-4

Switch a light automatically using a photocell

The Gateway runs a local control program that turns a single light point ON and OFF based on the status of a local photocell.

CONTROL-5

Adjust dimming level on presence detection

The Gateway runs a local control program that raises or lowers the dimming level of a single light point when a presence sensor is triggered.

CONTROL-6

Adjust dimming level on noise detection

The Gateway runs a local control program that changes the dimming level of a single point when a noise sensor is triggered.

CONTROL-7

Alarming

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Detect and report lighting alarms ✔

The Gateway detects lighting-related issues (e.g., lamp/driver issues, high temperature) and send alarms to the CMS via the data-logging service.

ALARM-1

Detect and report electrical alarms

The Gateway detects electrical issues (e.g., over/under-voltage, over-current, power loss) and sends alarms to the CMS via the data-logging service.

ALARM-2

Report invalid schedules or control programs ✔

If a calendar or control program is missing, invalid, or inconsistent, the Gateway raises an alarm and sends it to the CMS via the data-logging service.

ALARM-3

Report sensor-activity events

When activity is detected by local sensors (e.g., presence or noise), the Gateway sends an event to the CMS via the data-logging service.

ALARM-4

Provide alarm status on request ✔

When the CMS asks for it, the Gateway returns the actual status of the alarms (e.g., active/inactive).

ALARM-5

Programming

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Run a daily fixed time on/off and dimming schedule ✔

The Gateway receives a schedule that turns a light point ON/OFF and sets dimming level at specific times, the same every day of the year.

PROGRAM-1

Run an astro-clock on/off schedule with fixed-time dimming (daily) ✔

PROGRAM-2

The Gateway switches a light point ON/OFF at sunrise/sunset with an adjustable time offset (± minutes) and applies a time-based dimming plan during the astro-clock active period, every night.

Run a photocell-based on/off schedule with fixed-time dimming (daily)

The Gateway turns a light point ON when the photocell indicates darkness and OFF when it is bright and follows a time-based dimming plan during the photocell's active period, every night. **PROGRAM-3**

Combine photocell and astro-clock switching with fixed-time dimming (daily)

The Gateway turns a light point ON/OFF based on whichever trigger happens first, photocell darkness/brightness or astro sunrise/sunset with offset and follows a time-based dimming plan during the active period, every night. **PROGRAM-4**

Run an OFF period that crosses midnight (or midday) ✔

The Gateway turns lights OFF for a time window that crosses midnight (or midday). When the schedule resumes, the lights return to the last scheduled dimming level. **PROGRAM-5**

Support special date ranges (seasonal exceptions) ✔

The Gateway handles calendars with a year-round default rule plus a higher-priority rule that applies between two dates (e.g., Sept 10-Oct 16). **PROGRAM-6**

Support weekly exceptions (e.g., weekends) ✔

The Gateway handles calendars with a year-round default rule plus a higher-priority rule that applies on specific weekdays (e.g., every Saturday and Sunday). **PROGRAM-7**

Support combined weekly and seasonal exceptions with priorities ✔

The Gateway handles layered calendars: a year-round default rule; a higher-priority weekend rule (e.g., every Sat/Sun); an even higher-priority rule for a special period (Day 1-Day 2); and, within that period, a highest-priority rule for specific days (e.g., Saturdays). The most specific rule takes precedence. **PROGRAM-8**

Run a sensor-based dynamic lighting control program

The Gateway executes a control program that changes dimming level based on sensor detection (e.g., presence). **PROGRAM-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
✔	assetId	Customer identifier of the asset. If multiple devices have the same assetId it means they belong to the same asset.
✔	hwVersion	Hardware revision of the device.
✔	swVersion	Software version installed on the device.
✔	installationDate	The installation date of Physical Device.
✔	deviceReset	The physical device containing the logical device was reset.
✔	currentTime	Current time of the device defined as local time with time zone designator. [DEPRECATED: This attribute has been deprecated and it will be removed in the next MAJOR release. Please use the new TimeFunction.currentTime 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
✔	physicalAddress	Physical address of the device. For example, IEEE MAC address. This attribute can be used to map between logical and physical devices. The format is specific to the ODN implementation.
✔	communicationFailure	This attribute is updated by the ODN when the communication function is not operating as expected.

Events

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

Gateway

The Gateway function includes the necessary attributes to enable the communication between the CMS and the Gateway according to the TALQ Specification.

Attributes

#	Attribute	Description
✔	cmsUri	Base URI for TALQ communication that allows the Gateway to access the CMS. Must be an absolute URI. Other URI's for accessing CMS can be relative to this base.
✔	cmsAddress	CMS UUID address
✔	gatewayUri	Base URI for TALQ communication that allows the CMS to access the Gateway. Must be an absolute URI. Other URI's for accessing Gateway can be relative to this base.
✔	gatewayAddress	Gateway UUID address
✔	retryPeriod	Time duration before the Gateway retransmits a message for which expected response has not been received. [DEPRECATED: This attribute has been deprecated and it will be removed in the next MAJOR release. Please use the new GatewayFunction.gatewayRetryPeriod instead.]

✔	crlUrn	URI where the Gateway can obtain the Certification Revocation List (CRL).
✔	vendor	Vendor identification.

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
✔	defaultLightState	Sets the default light output for the lamp actuator. This shall be applicable if no other command is active. This attribute shall be set to 100% as default value.
✔	targetLightCommand	Latest command for the lamp actuator.
✔	feedbackLightCommand	This attribute reflects the command in effect and it might deviate from the actualLightState due to propagation time or due to internal ODN specific mechanisms to handle the priority of the requests.
✔	actualLightState	This attribute should reflect the physical state of the light source as much as possible, including factors such as CLO. It may be calculated or measured, depending on the specific ODN implementation, which is outside the scope of this specification.
✔	calendarID	TALQ Address of the calendar controlling this lamp actuator. If this attribute is empty, the behavior shall be determined by the ODN. If the attribute is invalid, the ODN shall trigger a generic invalid address event and the behavior shall be determined by the ODN.
✔	invalidCalendar	The lamp actuator function has been allocated a calendar that it cannot implement.
✔	invalidProgram	The lamp actuator function has been allocated a control program that it cannot implement.
✔	lightStateChange	Light state has changed.

Events

#	Event type	Description
✔	lightStateChange	Light state has changed

✔	invalidCalendar	The lamp actuator function has been allocated a calendar that it cannot implement
✔	invalidProgram	The lamp actuator function has been allocated a control program that it cannot implement

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
✔	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.
✔	dimmingFailure	The lamp is not dimming as it is supposed to (e.g. the driver is not connected properly). This event shall be used to detect a situation where the lamp (or LED module(s)) is lighting at a dimming level which is different from the expected dimming level, taking into account the programmed (or manual) level as well any correction (e.g. virtual power, constant light output).
✔	controlGearCommFailure	Indicates failure of the control gear.

Events

#	Event type	Description
✔	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.

Movement Sensor

The Movement Sensor function allows a CMS to detect movement. This function may be used in a Waste Container sensor to detect that container gets emptied or is not in the proper position, as well as in asset tracking applications.[DEPRECATED: This function has been deprecated and it will be removed in the next MAJOR release. Please use the new LocationSensorFunction instead.]

Attributes

#	Attribute	Description
✔	movementThreshold	Threshold above which a movementDetected event is triggered.
✔	movementDetected	Indicates the movement is above the movementThreshold.
✔	notInProperPosition	Indicates the sensor is not in proper position.

Events

#	Event type	Description
✔	notInProperPosition	Indicates the sensor is not in proper position.

Battery Level Sensor

The Battery Level Sensor function allows to measure the charge of the battery, monitor the battery and send events in case the value is above/below configurable thresholds.

Attributes

#	Attribute	Description
✔	powerSource	The power source of battery.
✔	batteryLevel	Battery level.
✔	batteryLevelTooLow	Indicates the battery level is below the batteryLevelLowThreshold.

Events

#	Event type	Description
✔	batteryLevelTooLow	talq.feature.event.BatteryLevelSensorFunction.batteryLevelTooLow.desc

Location Sensor*

The Location Sensor Function is used to indicate that an object has changed position attributes configurable by the CMS or based on internal setup of the vendor. For example, a specific location (latitude, longitude) of a device could be defined by the vendor. If the device is equipped with a GPS, it could send a specific event indicating that its position is different to the one defined by the CMS. We might also want to let the configuration to the vendor itself and simply define events notifying the CMS that the default configuration has changed. For example, a garbage bin could have its location defined based on a sensor placed on the floor. If the bin is not above this sensor, the vendor will trigger an event. In this last case, the CMS does not need to configure anything.

Attributes

#	Attribute	Description
✔	expectedLocation	Nominal location of the device

✔	locationChangedThreshold	Distance (meters)
✔	location	Location of the device
✔	locationChanged	Triggered when the difference between location and expectedLocation is above locationChangedThreshold

Events

#	Event type	Description
✔	locationChanged	Triggered when the difference between location and expectedLocation is above locationChangedThreshold

Luminaire Asset

This entity contains the managed and tracked attributes of a specific Luminaire, excluding the concept of Controller and Driver.

Attributes

#	Attribute	Description
✔	luminaireTypeAddress	Address of the Luminaire Type
✔	serial	Serial number of the Luminaire
✔	projectID	Name of the Project / Tender
✔	luminousFluxConfiguration	Programmed light output of the luminaire
✔	paintingColor	Painting color of the luminaire expressed as a color system-color value, (e.g: RAL-7035)
✔	installationTimestamp	Installation date and time of luminaire
✔	identification	Luminaire identification. (e.g: as per DiiA/D4i specification part 251 (MB1 extension)).
✔	identificationNumber	Luminaire identification number. (e.g: as per DiiA/D4i specification part 251 (MB1 extension))

Driver Asset

This entity contains the managed and tracked attributes of a specific driver

Attributes

#	Attribute	Description
✔	driverTypeAddress	Address of the Driver Type

✔	projectID	Name of the Project / Tender
✔	firmwareVersion	Version of the driver hardware firmware
✔	installationTimestamp	Installation date and time of driver

Controller Asset

This entity contains the managed and tracked attributes of a specific controller

Attributes

#	Attribute	Description
✔	controllerTypeAddress	Address of the Controller Type
✔	serial	Serial number of the Controller
✔	firmwareVersion	Version of the controller hardware firmware
✔	installationTimestamp	Installation date and time of OLC
✔	registrationTimestamp	Registration date and time of OLC
✔	projectID	Name of the Project / Tender
✔	connectionType	Type of the connection to the luminaire

Services

Configuration Service

The TALQ Configuration Service enables discovery and configuration of devices and services

Options

#	Option	Value	Description
✔	commissioningSupported*		This ODN can support commissioning from the CMS side.
✔	devicesPaginationSupported*		This ODN can support pagination of devices.

Control Service

The Control service describes the mechanisms to operate the actuator functions in order to enable schedule based and override control

Options

#	Option	Value	Description
✔	supportedTypes	• AbsoluteActivePeriod • AstroClockActivePeriod • AstroClockTimeControl* • ccDate* • ccDay*	Control Program and calendar options supported are defined by announcing support for the given modes
✔	ccDateSupport	• f • u • l • l	Indicates the ccDate options supported
✔	ccDaySupport	• f • u • l • l	Indicates the ccDay options supported

Events

#	Event Type	Description
✔	invalidCalendar	An invalid calendar has been provided by the CMS to the ODN
✔	invalidProgram	A control program has been provided by the CMS, which cannot be implemented by the ODN

Data Collection Service

The TALQ Data Collection Service is a provision to configure how ODN measurements, status information and events are logged, and when or under what conditions the logged data is transferred to the CMS

Options

#	Option	Value	Description
✔	supportedModes	• VendorRecordingMode • EventRecordingMode • ImmediateReportingMode	Recording and Reporting modes supported
✔	maximumDataLogs		Maximum number of data loggers supported

✔	samplingAccuracy	Maximum deviation of sampling moment in seconds
✔	minCollectionTime	Base time between sampling and being able to report attributes specified in a data logger
✔	minCollectionTimePerAttribute	Additional time per attribute instance between sampling and being able to report the attribute
✔	samplingPeriodSupported	Indicates whether the ODN supports periodic sampling for a data logger in periodic recording mode
✔	recordingActivePeriodSupported	Indicates whether the ODN supports active periods for a data logger in recording modes

Events

#	Event Type	Description
✔	invalidLoggerConfig	The CMS has provided a data logger configuration that cannot be implemented by the ODN

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

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
✔	attributes	A sequence of attribute values logged together with the event

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.

Group

A group is set of entities that can be addressed by the same group address. Devices and functions within devices can be assigned to a group. A group may also include other groups as members.

Properties

#	Property	Description
✔	address	Group address
✔	members	TALQ Addresses of members of the group

*: 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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