Certified Capability List

This Capability List is based on a certification session performed by the *TALQ Certification Tool (v2.5.1-online.3) on 2023-11-06 08:27:09.667 +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
Company	Luminext B.V.
Type	CMS
URL	https://talq.luminizer.nl/cms/
Notes	
Generated on	2023-11-06 08:27:09.667 +0100
Supported profiles	• Environmental Monitoring • Lighting
API version certified:	2.5.1
Certification performed by app version:	2.5.1-online.3

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.
✔	serial	Serial number of the device.
✔	hwType	Hardware type of the device.
✔	swVersion	Software version installed on 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],end[/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.]
✔	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
✔	batteryMode	Device operating in battery mode
✔	installationMode	Device is being installed
✔	maintenanceMode	Device is undergoing maintenance
✔	cabinetDoorOpen	Cabinet door is open. [DEPRECATED: This attribute has been deprecated and it will be removed in the next MAJOR release. Please use the new SegmentMonitor.cabinetDoorOpen instead.]
✔	batteryShutdown	Indicates the device has shut down due to battery discharge
✔	locationUpdated	Indicates the location of a device has changed.

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.
✔	parentAddress	TALQ Address of the parent device, e.g. gateway. It shall point to a specific communication function.

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
✔	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.

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
✔	numberOfLamps	Number of lamps being monitored by the lamp monitor function.

✔	operatingHours	Number of hours the lamp is on. This is the value used in CLO and may be set by the CMS.
✔	temperature	Temperature of the device implementing this function. [DEPRECATED: This attribute has been deprecated and it will be removed in the next MAJOR release. Please use the new TemperatureSensorFunction.temperature instead.]
✔	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.
✔	powerFactorSense	Phase sense of power factor.
✔	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
✔	lampVoltageTooHigh	Level of lamp voltage (not supply voltage) is greater than highLampVoltageThreshold.
✔	lampVoltageTooLow	Level of lamp voltage (not supply voltage) is smaller than lowLampVoltageThreshold.
✔	currentTooHigh	Supply current is above the highCurrentThreshold defined in the lamp type
✔	currentTooLow	Supply current is below the lowCurrentThreshold defined in the lamp type
✔	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.
✔	highTemperature	Indicates temperature is above the high threshold
✔	relayFailure	Set in case of internal relay is failing
✔	absoluteLampPowerTooHigh	Indicates the power is above the lampPowerHighThreshold in the lamp type

✔	absoluteLampPowerTooLow	Indicates the power is below the lampPowerLowThreshold in the lamp type
✔	controlGearCommFailure	Indicates failure of the control gear
✔	cyclingFailure	Indicates the lamp is constantly switching ON and OFF in an unexpected manner
✔	supplyLoss	Indicates loss of mains power
✔	contactorError	Indicates error in contactor
✔	lampUnexpectedOn	Indicates lamp is unexpectedly on
✔	leakageDetected	Indicates that an earth leakage fault has been detected

Electrical Meter

The electrical meter function supports electrical metering capabilities including measurements of voltage, current, power, energy, and power factor. This function may be associated with Luminaire Controllers, Cabinet Controllers or electrical meters installed in switch boxes. ODNs may implement both single phase and three phase meters. Typically meters within a control device will be single phase and stand-alone meters. A street side cabinet may have single phase or three phase meters.

Attributes

#	Attribute	Description
✔	totalPower	Sum of the active power consumed on phase 1, 2 and 3, or just the power for a single phase meter.
✔	totalActiveEnergy	Total cumulative kWh measured by the meter since installation date (or counter reset).
✔	totalPowerFactor	Total active power divided by total apparent power.
✔	supplyVoltage	Average between Phase1 RMS Voltage, Phase2 RMS Voltage and Phase3 RMS Voltage, or in the case of a single phase meter just the RMS supply voltage.
✔	totalCurrent	Sum of the RMS currents on phase 1, 2 and 3.
✔	averageCurrent	Average RMS current on phase 1, 2 and 3.

Events

#	Event type	Description

Photocell

A Photocell function models the capabilities of a photocell that can be used for lighting control. This function shall be supported by the CMS and optionally by the ODNs (Gateway).

Attributes

#	Attribute	Description

✔	onLevel	Illuminance level at which the photocell switches to on state.
✔	offLevel	Illuminance level at which the photocell switches to off state.
✔	photocellOutput	Output state of the photocell. Possible values are ON (means the illuminance level has fallen below the onLevel) and OFF (means the illuminance level has risen above the offLevel).

Events

#	Event type	Description
✔	photocellOutputOn	The photocell output has changed to ON

Temperature Sensor

The Temperature Sensor function allows a CMS to monitor the temperature in a device and send events in case the value is above/below configurable thresholds.

Attributes

#	Attribute	Description
✔	temperatureHighThreshold	Threshold above which a temperatureTooHigh event is triggered.
✔	temperatureLowThreshold	Threshold below which a temperatureTooLow event is triggered.
✔	fireDetectionThreshold	Threshold above which a fireDetected event is triggered.
✔	temperature	Output temperature.

Events

#	Event type	Description
✔	temperatureTooHigh	Indicates the output temperature is above the temperatureHighThreshold.
✔	temperatureTooLow	Indicates the output temperature is below the temperatureLowThreshold.
✔	fireDetected	Indicates the output temperature is above the fireDetectionThreshold.

Humidity Sensor

The Humidity Sensor function allows a CMS to monitor the humidity in a device and send events in case the value is above/below configurable thresholds.

Attributes

#	Attribute	Description
✔	humidityLowThreshold	talq.feature.attribute.HumiditySensorFunction.humidityLowThreshold.desc

✔	humidityHighThreshold	Threshold above which a humidityTooHigh event is triggered.
✔	humidity	Output humidity.

Events

#	Event type	Description
✔	humidityTooHigh	Indicates the output humidity is above the humidityHighThreshold.

Particulate Matter Sensor

The Particulate Matter Sensor function allows a CMS to monitor the PM10, PM2.5 and PM1 in a device and send events in case the value is above/below configurable thresholds.

Attributes

#	Attribute	Description
✔	pm1HighThreshold	Threshold (micrograms/m3) above which a pm1TooHigh event is triggered.
✔	pm2-5HighThreshold	Threshold (micrograms/m3) above which a pm2-5TooHigh event is triggered.
✔	pm10HighThreshold	Threshold (micrograms/m3) above which a pm10TooHigh event is triggered.
✔	pm1	Level of pm1 measured by the sensor. (micrograms/m3)
✔	pm2-5	Level of pm2-5 measured by the sensor. (micrograms/m3)
✔	pm10	Level of pm10 measured by the sensor. (micrograms/m3)
✔	applicationType	Application Type of the particulate matter sensor depending on the use case. E.g.: 'Air Quality Sensor'
✔	pm1-24hAverage	Average level of pm1 measured by the sensor during the last 24h. (micrograms/m3)
✔	pm2-5-24hAverage	Average level of pm2.5 measured by the sensor during the last 24h. (micrograms/m3)
✔	pm10-24hAverage	Average level of pm10 measured by the sensor during the last 24h. (micrograms/m3)

Events

#	Event type	Description
✔	pm1TooHigh	Indicates the output pm1 is above the pm1HighThreshold.
✔	pm2-5TooHigh	Indicates the output pm2-5 is above the pm2-5HighThreshold.
✔	pm10TooHigh	Indicates the output pm10 is above the pm10HighThreshold.

Gas Sensor*

The Gas Sensor function allows to measure the gas concentration and sends events if the level is above the configured thresholds.

Attributes

#	Attribute	Description
✔	gasConcentration	Gas concentration (ppm)
✔	gasHighConcentrationThreshold	Threshold (ppm) above which a gasConcentrationTooHigh event is triggered.
✔	gasName	Type of gas: CO, CO2, O2, O3, NO, NO2, SO2, NH3, CH4, H2, H2S, HCl, HCN, PH3, ETO, Other. If Other is selected, then gasOtherName shall be used.
✔	gasOtherName	Type of gas if it is not included in the Enum list of gases for gasName
✔	applicationType	Application Type of the gas sensor depending on the use case. E.g.: 'Waste Gas Detector'
✔	gasConcentration1hAverage	Average concentration of gas measured by the sensor during the last 1 hour. (ppm)
✔	gasConcentration8hAverage	Average concentration of gas measured by the sensor during the last 8 hours. (ppm)

Events

#	Event type	Description
✔	gasConcentrationTooHigh	Indicates that the gasConcentration is above the gasHighConcentrationThreshold.

Noise Monitoring Sensor*

This sensor function enables monitoring basic noise data.

Attributes

#	Attribute	Description
✔	noiseHighThreshold	Threshold above which a noiseTooHigh event is triggered. (dB)
✔	noise	Output noise. (dB)
✔	applicationType	Application Type of the noise depending on the use case. E.g.: 'Street noise sensor'
✔	minMeasuredNoise	The minimum value measured by the sensor since power ON or since measuredNoiseSince. (dB)
✔	maxMeasuredNoise	The maximum value measured by the sensor since power ON or since measuredNoiseSince. (dB)

✔	measuredNoiseSince	Indicates the date and time at which measuredNoise is reset to zero. The Gateway may change this value with the actual one depending on implementation.
✔	typeOfNoise	Indicates the type of sound of the abnormalNoiseDetected event. E.g.: gunShot, alarm, carCrash, ..

Events

#	Event type	Description
✔	abnormalNoiseDetected	Indicates that an abnormal noise is detected
✔	noiseTooHigh	Indicates the output noise is above the noiseHighThreshold.

Atmospheric Sensor*

This sensor function enables monitoring basic atmospheric data such as barometric pressure, humidity, and temperature. This function complies with WMO standards as reported in the 'Guide to Instruments and Methods of Observation (WMO-No. 8) / Volume I - Measurement of Meteorological Variables'

Attributes

#	Attribute	Description
✔	airTemperature	Temperature (°C)
✔	feelsLikeTemperature	Feels like temperature, which take into account the cooling and heating effects of wind and humidity on the human body (°C)
✔	relativeHumidity	Relative humidity (%)
✔	dewPoint	Temperature of dew point (°C)
✔	atmosphericPressure	Atmospheric pressure normalized to sea level (hPa)
✔	applicationType	Application Type of the atmospheric sensor depending on the use case. E.g.: 'Weather atmospheric sensor'

Wind Sensor*

This sensor function enables monitoring wind speed and direction. This function complies with WMO standards as reported in the 'Guide to Instruments and Methods of Observation (WMO-No. 8) / Volume I - Measurement of Meteorological Variables'

Attributes

#	Attribute	Description
✔	windSpeed	Wind speed (m/s)
✔	windDirectionString	Wind direction (N, NE, E, SE, S, SW, W, NW)
✔	windDirection	Wind direction in degrees (Relative to True north)
✔	windGust	Wind gust speed (m/s)

✔	windGustDirection	Wind gust direction in degrees (Relative to True north)
✔	maxWindGust	Max wind gust speed (m/s) measured since maxWindGustSince
✔	maxWindGustSince	Indicates the date and time at which maxWindGust is reset to zero. The Gateway may change this value with the actual one depending on implementation.
✔	applicationType	Application Type of the wind sensor depending on the use case. E.g.: 'Weather wind sensor'

Precipitation Sensor*

This sensor function enables monitoring precipitation, defined as the liquid or solid products of the condensation of water vapour falling from clouds, in the form of rain, drizzle, snow, snow grains, snow pellets, hail and ice pellets; or falling from clear air in the form of diamond dust. This function complies with WMO standards as reported in the 'Guide to Instruments and Methods of Observation (WMO-No. 8) / Volume I – Measurement of Meteorological Variables'

Attributes

#	Attribute	Description
✔	precipitationRate	Intensity of precipitation (mm/h)
✔	accumulatedPrecipitation	Accumulated precipitation since accumulatedPrecipitationSince
✔	accumulatedPrecipitationSince	Indicates the date and time at which accumulatedPrecipitation is reset to zero. The Gateway may change this value with the actual one depending on implementation.
✔	applicationType	Application Type of the precipitation sensor depending on the use case. E.g.: ‘Weather precipitation sensor'

Sky Sensor*

This sensor function enables monitoring of other atmospheric phenomena. This function complies with WMO standards as reported in the 'Guide to Instruments and Methods of Observation (WMO-No. 8) / Volume I - Measurement of Meteorological Variables'

Attributes

#	Attribute	Description
✔	cloudiness	Cloud cover of the sky (%)
✔	solarDirectRadiation	Total solar irradiance (W/m2)
✔	visibility	Visibility (m)
✔	applicationType	Application Type of the sky sensor depending on the use case. E.g.: 'Weather sky sensor'

Gully Sensor*

The Gully Sensor measures properties associated with street drains or gullies.

Attributes

#	Attribute	Description
✔	siltLevel	Level of silt (%)
✔	applicationType	Application Type of the gully sensor depending on the use case. E.g.: 'Street Gully sensor'

Events

#	Event type	Description
✔	grillOpened	Indicates that the gully grill is opened
✔	levelWarning	Indicates that the water level is problematic.
✔	overfull	Indicates that the gully is overfull

Water Flow Sensor*

The water flow sensor function measures the water flow rate.

Attributes

#	Attribute	Description
✔	flowRate	Rate of water flow (m3/s)
✔	flowRateTooHighThreshold	Threshold above which a flowRateTooHigh event is triggered (m3/s).
✔	flowRateTooLowThreshold	Threshold below which a flowRateTooLow event is triggered (m3/s).
✔	maxFlowRate	Max flow rate value since flowRateSince (m3/s).
✔	minFlowRate	Min flow rate value since flowRateSince (m3/s).
✔	flowRateSince	Sets the date and time at which max and min flow rates are reset to zero
✔	applicationType	Application Type of the water flow sensor depending on the use case. E.g.: 'Street water flow sensor'

Events

#	Event type	Description
✔	flowRateTooHigh	Indicates the flowRate measure is above the flowRateTooHighThreshold.
✔	flowRateTooLow	Indicates the flowRate measure is below the flowRateTooLowThreshold.

Water Quality Sensor*

The water quality sensor function measures the quality of the water in the drinkable water distribution network, in water tanks or in lakes and rivers.

Attributes

#	Attribute	Description
✔	pH	Current or last value of the pH measured by the sensor.
✔	chlorine	Current or last value of the chlorine measured by the sensor (ppm)
✔	orp	Current or last value of the oxidation reduction potential (ORP) measured by the sensor (V)
✔	totalDissolvedGas	Current or last value of the dissolved gas (TDG) measured by the sensor (ppm).
✔	dissolvedOxygen	Current or last value of the dissolved oxygen measured by the sensor (ppm).
✔	turbidity	Current or last value of the turbidity measured by the sensor using the Nephelometric Turbidity Unit (NTU).
✔	conductivity	Current or last value of the conductivity measured by the sensor (S/m).
✔	conductance	Current or last value of the conductance measured by the sensor (S/m).
✔	totalSuspendedSolids	Current or last value of the TSS measured by the sensor (mg/l).
✔	totalDissolvedSolids	Current or last value of the TDS measured by the sensor (mg/l).
✔	salinity	Current or last value of the salinity measured by the sensor (ppt).
✔	NO3	Current or last value of NO3 measured by the sensor (mg/l).
✔	NH3	Current or last value of NH3 measured by the sensor (mg/l).
✔	NH4	Current or last value of NH4 measured by the sensor (mg/l).
✔	pHTooHighThreshold	Threshold above which a pHTooHigh event is triggered.
✔	pHTooLowThreshold	Threshold below which a pHTooLow event is triggered.

✔	chlorineTooHighThreshold	Threshold above which a chlorineTooHigh event is triggered. (ppm)
✔	orpTooLowThreshold	Threshold below which a orpTooLow event is triggered. (V)
✔	totalDissolvedGasTooHighThreshold	Threshold above which a totalDissolvedGasTooHigh event is triggered.
✔	totalDissolvedGasTooLowThreshold	Threshold below which a totalDissolvedGasTooLow event is triggered.
✔	dissolvedOxygenTooLowThreshold	Threshold below which a dissolvedOxygenTooLow event is triggered.
✔	turbidityTooHighThreshold	Threshold above which a turbidityTooHigh event is triggered. (NTU)
✔	conductivityTooHighThreshold	Threshold above which a conductivityTooHigh event is triggered. (S/m)
✔	conductanceTooHighThreshold	Threshold above which a conductanceTooHigh event is triggered. (S/m)
✔	totalSuspendedSolidsTooHighThreshold	Threshold below which a totalSuspendedSolidsTooHigh event is triggered. (mg/l)
✔	totalDissolvedSolidsTooHighThreshold	Threshold below which a totalDissolvedSolidsTooHigh event is triggered. (mg/l)
✔	salinityTooHighThreshold	Threshold above which a salinityTooHigh event is triggered.
✔	salinityTooLowThreshold	Threshold below which a salinityTooLow event is triggered.
✔	NO3TooHighThreshold	Threshold above which a NO3TooHigh event is triggered. (mg/l)
✔	NH3TooHighThreshold	Threshold above which a NO3TooHigh event is triggered. (mg/l)
✔	NH4TooHighThreshold	Threshold above which a NH4TooHigh event is triggered. (mg/l)
✔	applicationType	Application Type of the water quality sensor depending on the use case. E.g.: 'River water quality sensor'

Events

#	Event type	Description
✔	chlorineTooHigh	Indicates the chlorine measure is above the chlorineTooHighThreshold.

✔ conductanceTooHigh	Indicates the conductance measure is above the conductanceTooHighThreshold.
✔ conductivityTooHigh	Indicates the conductivity measure is above the conductivityTooHighThreshold.
✔ dissolvedOxygenTooLow	Indicates the dissolvedOxygen measure is below the dissolvedOxygenTooLowThreshold.
✔ NH3TooHigh	Indicates the NH3 measure is above the NH3TooHighThreshold.
✔ NH4TooHigh	Indicates the NH4 measure is above the NH4TooHighThreshold.
✔ NO3TooHigh	Indicates the NO3 measure is above the NO3TooHighThreshold.
✔ orpTooLow	Indicates the orp measure is below the orpTooLowThreshold.
✔ pHTooHigh	Indicates the pH measure is above the phTooHighThreshold.
✔ pHTooLow	Indicates the pH measure is below the phTooLowThreshold.
✔ salinityTooHigh	Indicates the salinity measure is above the salinityTooHighThreshold.
✔ salinityTooLow	Indicates the salinity measure is below the salinityTooLowThreshold.
✔ totalDissolvedGasTooHigh	Indicates the totalDissolvedGas measure is above the totalDissolvedGasTooHighThreshold.
✔ totalDissolvedGasTooLow	Indicates the totalDissolvedGas measure is below the totalDissolvedGasTooLowThreshold.
✔ totalDissolvedSolidsTooHigh	Indicates the totalDissolvedSolids measure is above the totalDissolvedSolidsTooHighThreshold.
✔ totalSuspendedSolidsTooHigh	Indicates the totalSuspendedSolids measure is above the totalSuspendedSolidsTooHighThreshold.
✔ turbidityTooHigh	Indicates the turbidity measure is above the turbidityTooHighThreshold.

Services

Configuration Service

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

Options

#	Option	Value	Description

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

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

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

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

✔	startEndFlag	If the event denotes either the start or end of a ‘special’ period, this flag shall be included

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.
✔	refAddress	Reference to the source of the command, e.g. sensor or control program
✔	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.
✔	rampToLevelTime*	The time (in seconds) taken for the value to ramp to the specified level. The change will be finished rampToLevelTime seconds after: the scheduled time if the change comes from a control program; the reception of the request, or the command.start time attribute, if the change comes from an override command, or; the sensor event is raised if the control is sensor-based. If actions related to one command remain to be completed when a subsequent command is received, the subsequent command shall take precedence.
✔	rampFromLevelTime*	The time (in seconds) taken for the value to ramp to the specified level. The change will be finished rampFromLevelTime seconds after: the scheduled time if the change comes from a control program; the reception of the request if the change comes from an override command; expiry of the related command, or; the sensor event is lowered and the hold time subsequently expires if the control is sensor-based. If actions related to one command remain to be completed when a subsequent command is received, the subsequent command shall take precedence.

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 (*).

This Capability List is based on a certification session performed by the TALQ Certification Tool (v2.5.1-online.3) on 2023-11-06 08:27:09.667 +0100.