Certified Capability List

This Capability List is based on a certification session performed by the *TALQ Certification Tool (v2.4.1-update.6) on 2022-11-21 11:33:05.079 +0100.*

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

The tool has succesfully performed *43 tests*.

Product details

Product Name	Datek Light Control Gateway
Company	Datek Light Control AS
Type	GATEWAY
Notes	
Generated on	2022-11-21 11:33:05.079 +0100
Supported profiles	• Lighting
API version certified:	2.4.1
Certification performed by app version:	2.4.1-update.6

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.
✔	swVersion	Software version installed on the device.
✔	softwareUpdating	Indicates software updating is in progress.
✔	batteryMode	Device operating in battery mode.
✔	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

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.

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.
✔	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
✔	outputPort	Identifier of the output port that is controlled by the lamp actuator.
✔	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

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
✔	supplyType	Supply type of the lamp. Accepted values are: AC, DC.

✔	activePower	Active power.

Events

#	Event type	Description
✔	lampFailure	The lamp is not operating as it is supposed to

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.
✔	totalVA	Sum of the apparent power consumed on phase 1, 2 and 3, or just the apparent power for a single phase meter.
✔	totalVAR	Sum of the reactive power consumed on phase 1, 2 and 3, or just the reactive power for a single phase meter.
✔	frequency	Frequency on the line.
✔	totalPowerFactor	Total active power divided by total apparent power.
✔	phase1PowerFactor	Power factor on phase 1.
✔	phase2PowerFactor	Power factor on phase 2.
✔	phase3PowerFactor	Power factor on phase 3.
✔	phase1Voltage	RMS Voltage between phase 1 and neutral.
✔	phase2Voltage	RMS Voltage between phase 2 and neutral.
✔	phase3Voltage	RMS Voltage between phase 3 and neutral.
✔	voltagePhase1Phase2	RMS Voltage between phase 1 and phase 2.
✔	voltagePhase2Phase3	RMS Voltage between phase 2 and phase 3.
✔	voltagePhase3Phase1	RMS Voltage between phase 3 and phase 1.
✔	totalCurrent	Sum of the RMS currents on phase 1, 2 and 3.

✔	phase1Current	RMS current on phase 1.
✔	phase2Current	RMS current on phase 2.
✔	phase3Current	RMS current on phase 3.
✔	phase1ActivePower	Active Power on phase 1.
✔	phase2ActivePower	Active Power on phase 2.
✔	phase3ActivePower	Active Power on phase 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
✔	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

Light Sensor

A Light Sensor function models the output of light sensor. This function is optional for both CMS and Gateway, but when supported the requirements in this section shall apply.

Attributes

#	Attribute	Description
✔	lightLevel	Illuminance level.
✔	levelTooLow	Indicates the light level is below the levelLowThreshold.

Events

#	Event type	Description

Binary Sensor

A Binary Sensor function can be used to model any sensor that provides a digital, binary output. This function is optional for both CMS and Gateway, but when supported the requirements in this section shall apply.

Attributes

#	Attribute	Description
✔	level	Sensor Output level.

Events

#	Event type	Description

Generic Sensor

A Generic Sensor function can be used to model any sensor that provides an analog or multilevel output. This function is optional for both CMS and Gateway, but when supported the requirements in this section shall apply.

Attributes

#	Attribute	Description
✔	level	Sensor Output level.

Events

#	Event type	Description

Simple Actuator

The Simple Actuator function includes attributes related to generic control and it represents the smallest unit for control purposes.

Attributes

#	Attribute	Description

✔	defaultState	Sets the default state output for the simple actuator. This shall be applicable if the actuator is not under an override control (OverrideCommand).
✔	actualState	This attribute should reflect the physical state of the source as much as possible. It may be calculated or measured, depending on the specific ODN implementation, which is outside the scope of this specification.
✔	targetCommand	Latest command for the simple actuator.
✔	feedbackCommand	This attribute reflects the command in effect and it might deviate from the actualState due to propagation time or due to internal ODN specific mechanisms to handle the priority of the requests.

Events

#	Event type	Description

Time*

The Time function includes attributes related to generic control and it represents the smallest unit for control purposes.

Attributes

#	Attribute	Description
✔	timeZone	Time zone of the device. Time zone may be expressed in two formats. where 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].
✔	currentTime	Current time of the device defined as local time with time zone designator.

Events

#	Event type	Description

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

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

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

Properties

#	Property	Description
✔	state	Light state to be applied to the lamp actuator
✔	cmsRefId	CMS reference, which can be used for data logging

✱: 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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