Certified Capability List

This Capability List is based on a certification session performed by the *TALQ Certification Tool (v2.7.0-online.1) on 2026-03-09 18:26:28.429 +0100.*

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

The tool has succesfully performed *52 tests*.

Product details

Product Name	SOC
Company	iCiti
Type	GATEWAY
Notes	Server Open City
Generated on	2026-03-09 18:26:28.429 +0100
Supported profiles	• Lighting
API version certified:	2.7.0
Certification performed by app version:	2.7.0-online.1

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

5 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

CONFIG-7

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

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

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. **CONFIG-8**

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

The Gateway reports how many times each lamp has been switched on, as a cumulative counter to the CMS via the data logging service. **MONITOR-4**

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 **4 of 7**

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 4 of 5

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

6 of 9

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) ✔

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. **PROGRAM-2**

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
✔	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.]
✔	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.
✔	lightStateChange	Light state has changed.

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
✔	operatingHours	Number of hours the lamp is on. This is the value used in CLO and may be set by the CMS.
✔	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).

✔	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.

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.

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
✔	totalPowerHighThreshold	Power above which the totalPowerTooHigh event is triggered.
✔	totalPowerLowThreshold	Power below which the totalPowerTooLow event is triggered.
✔	powerfactorThreshold	Power factor below which the powerfactorTooLow event is triggered.
✔	phase1PowerfactorLowThreshold	Phase 1 power factor below which the phase1PowerfactorTooLow event is triggered.
✔	phase2PowerfactorLowThreshold	Phase 2 power factor below which the phase2PowerfactorTooLow event is triggered.
✔	phase3PowerfactorLowThreshold	Phase 3 power factor below which the phase3PowerfactorTooLow event is triggered.
✔	supplyVoltageHighThreshold	Supply voltage above which the supplyVoltageTooHigh event is triggered.
✔	supplyVoltageLowThreshold	Supply voltage below which the supplyVoltageTooLow event is triggered.

✔ phase1VoltageHighThreshold	RMS voltage above which the phase1VoltageTooHigh event is triggered.
✔ phase1VoltageLowThreshold	RMS voltage below which the phase1VoltageTooLow event is triggered.
✔ phase2VoltageHighThreshold	RMS voltage above which the phase2VoltageTooHigh event is triggered.
✔ phase2VoltageLowThreshold	RMS voltage below which the phase2VoltageTooLow event is triggered.
✔ phase3VoltageHighThreshold	RMS voltage above which the phase3VoltageTooHigh event is triggered.
✔ phase3VoltageLowThreshold	RMS voltage below which the phase3VoltageTooLow event is triggered.
✔ totalCurrentHighThreshold	RMS current above which the currentTooHigh event is triggered.
✔ totalCurrentLowThreshold	RMS current below which the currentTooLow event is triggered.
✔ neutralCurrentHighThreshold	RMS current above which the neutralCurrentTooHigh event is triggered.
✔ phase1CurrentHighThreshold	RMS current above which the phase1CurrentTooHigh event is triggered.
✔ phase1CurrentLowThreshold	RMS current below which the phase1CurrentTooLow event is triggered.
✔ phase2CurrentHighThreshold	RMS current above which the phase2CurrentTooHigh event is triggered.
✔ phase2CurrentLowThreshold	RMS current below which the phase2CurrentTooLow event is triggered.
✔ phase3CurrentHighThreshold	RMS current above which the phase3CurrentTooHigh event is triggered.
✔ phase3CurrentLowThreshold	RMS current below which the phase3CurrentTooLow event is triggered.
✔ phase1ActivePowerHighThreshold	Power above which the phase1ActivePowerTooHigh event is triggered.
✔ phase1ActivePowerLowThreshold	Power below which the phase1ActivePowerTooLow event is triggered.

✔ phase2ActivePowerHighThreshold	Power above which the phase2ActivePowerTooHigh event is triggered.
✔ phase2ActivePowerLowThreshold	Power below which the phase2ActivePowerTooLow event is triggered.
✔ phase3ActivePowerHighThreshold	Power above which the phase3ActivePowerTooHigh event is triggered.
✔ phase3ActivePowerLowThreshold	Power below which the phase3ActivePowerTooLow event is triggered.
✔ 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.
✔ maxDemandPower	Maximum peak power consumption.
✔ totalActiveEnergy	Total cumulative kWh measured by the meter since installation date (or counter reset).
✔ totalReactiveEnergy	Total cumulative kVArh measured by the meter since installation date (or counter reset).
✔ totalApparentEnergy	Total cumulative kVAh measured by the meter since installation date (or counter reset).
✔ frequency	Frequency on the line.
✔ totalPowerFactor	Total active power divided by total apparent power.
✔ totalPowerFactorSense	Sense of power factor (lead or lag).
✔ phase1PowerFactor	Power factor on phase 1.
✔ phase1PowerFactorSense	Sense of power factor (lead or lag).
✔ phase2PowerFactor	Power factor on phase 2.
✔ phase2PowerFactorSense	Sense of power factor (lead or lag).
✔ phase3PowerFactor	Power factor on phase 3.
✔ phase3PowerFactorSense	Sense of power factor (lead or lag).

✔ 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.
✔ 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.
✔ averageCurrent	Average RMS current on phase 1, 2 and 3.
✔ neutralCurrent	RMS current on neutral.
✔ 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.
✔ phase1ApparentPower	Apparent Power on phase 1.
✔ phase2ApparentPower	Apparent Power on phase 2.
✔ phase3ApparentPower	Apparent Power on phase 3.
✔ phase1ReactivePower	Reactive Power on phase 1.
✔ phase2ReactivePower	Reactive Power on phase 2.
✔ phase3ReactivePower	Reactive Power on phase 3.
✔ phase1ActiveEnergy	Cumulative active energy on phase 1.
✔ phase2ActiveEnergy	Cumulative active energy on phase 2.
✔ phase3ActiveEnergy	Cumulative active energy on phase 3.
✔ worstCurrentTHD	Worst value for Total Harmonic Distortion on current (all 3 phases).

✔ phase1CurrentTHD	Total Harmonic Distortion on current for phase 1.
✔ phase2CurrentTHD	Total Harmonic Distortion on current for phase 2.
✔ phase3CurrentTHD	Total Harmonic Distortion on current for phase 3.
✔ worstVoltageTHD	Worst Total Harmonic Distortion on voltage (all 3 phases).
✔ averageVoltageTHD	Average value of Total Harmonic Distortion on voltage.
✔ phase1VoltageTHD	Total Harmonic Distortion on voltage for phase 1.
✔ phase2VoltageTHD	Total Harmonic Distortion on voltage for phase 2.
✔ phase3VoltageTHD	Total Harmonic Distortion on voltage for phase 3.
✔ phase1_2VoltageTHD	Total Harmonic Distortion on voltage between phase 1 and phase 2.
✔ phase2_3VoltageTHD	Total Harmonic Distortion on voltage between phase 2 and phase 3.
✔ phase3_1VoltageTHD	Total Harmonic Distortion on voltage between phase 3 and phase 1.
✔ supplyLossCount	Incrementing count of supply losses. In the case of 3 phases the count of losses on all three phases together. The wrap around value is 2e32 - 1.
✔ phase1SupplyLossCount	Incrementing count of supply losses on Phase 1. The wrap around value is 2e32 - 1.
✔ phase2SupplyLossCount	Incrementing count of supply losses on Phase 2. The wrap around value is 2e32 - 1.
✔ phase3SupplyLossCount	Incrementing count of supply losses on Phase 3. The wrap around value is 2e32 - 1.
✔ totalPowerTooHigh	Indicates total power is above the totalPowerHighThreshold.
✔ totalPowerTooLow	Indicates total power is below the totalPowerLowThreshold.

✔ powerfactorTooLow	Indicates the power factor is below the powerfactorThreshold.
✔ phase1PowerfactorTooLow	Indicates the phase 1 power factor is below the phase1PowerfactorLowThreshold.
✔ phase2PowerfactorTooLow	Indicates the phase 2 power factor is below the phase2PowerfactorLowThreshold
✔ phase3PowerfactorTooLow	Indicates the phase 3 power factor is below the phase3PowerfactorLowThreshold
✔ supplyVoltageTooHigh	Indicates supply voltage is above the supplyVoltageHighThreshold.
✔ supplyVoltageTooLow	Indicates supply voltage is below the supplyVoltageLowThreshold.
✔ phase1VoltageTooHigh	Indicates phase 1 supply voltage is above the phase1VoltageHighThreshold.
✔ phase1VoltageTooLow	Indicates phase 1 supply voltage is below the phase1VoltageLowThreshold.
✔ phase2VoltageTooHigh	Indicates phase 2 supply voltage is above the phase2VoltageHighThreshold.
✔ phase2VoltageTooLow	Indicates phase 2 supply voltage is below the phase2VoltageLowThreshold.
✔ phase3VoltageTooHigh	Indicates phase 3 supply voltage is above the phase3VoltageHighThreshold.
✔ phase3VoltageTooLow	Indicates phase 3 supply voltage is below the phase3VoltageLowThreshold.
✔ totalCurrentTooHigh	Indicates the current is above the totalCurrentHighThreshold.
✔ totalCurrentTooLow	Indicates the current is below the totalCurrentLowThreshold.
✔ neutralCurrentTooHigh	Indicates the neutral current is above the neutralCurrentHighThreshold.
✔ phase1CurrentTooHigh	Indicates the phase 1 current is above the phase1CurrentHighThreshold.
✔ phase1CurrentTooLow	Indicates the phase 1 current is below the phase1CurrentLowThreshold.
✔ phase2CurrentTooHigh	Indicates the phase 2 current is above the phase2CurrentHighThreshold.

✔	phase2CurrentTooLow	Indicates the phase 2 current is below the phase2CurrentLowThreshold.
✔	phase3CurrentTooHigh	Indicates the phase 3 current is above the phase3CurrentHighThreshold.
✔	phase3CurrentTooLow	Indicates the phase 3 current is below the phase3CurrentLowThreshold.
✔	phase1ActivePowerTooHigh	Indicates the phase 1 active power is above the phase1ActivePowerHighThreshold.
✔	phase1ActivePowerTooLow	Indicates the phase 1 active power is below the phase1ActivePowerLowThreshold.
✔	phase2ActivePowerTooHigh	Indicates the phase 2 active power is above the phase2ActivePowerHighThreshold.
✔	phase2ActivePowerTooLow	Indicates the phase 2 active power is below the phase2ActivePowerLowThreshold.
✔	phase3ActivePowerTooHigh	Indicates the phase 3 active power is above the phase3ActivePowerHighThreshold.
✔	phase3ActivePowerTooLow	Indicates the phase 3 active power is below the phase3ActivePowerLowThreshold.
✔	applicationType	Application Type of the electrical meter depending on the use case. E.g.: Lamp Electrical Meter, Segment Electrical Meter
✔	actuatorReference	Function ID of the actuator, located in the same device, whose effect is being monitored by this function. e.g.: fLampActuatorId_1 or fGenericActuatorId_2
✔	supplyLoss	Indicates loss of supply (power).

Events

#	Event type	Description
✔	totalPowerTooHigh	Indicates total power is above the totalPowerHighThreshold
✔	totalPowerTooLow	Indicates total power is below the totalPowerLowThreshold
✔	supplyVoltageTooHigh	Indicates supply voltage is above the supplyVoltageHighThreshold
✔	supplyVoltageTooLow	Indicates supply voltage is below the supplyVoltageLowThreshold

✔ totalCurrentTooHigh	Indicates the current is above the totalCurrentHighThreshold
✔ totalCurrentTooLow	Indicates the current is below the totalCurrentLowThreshold
✔ neutralCurrentTooHigh	Indicates the neutral current is above the neutralCurrentHighThreshold
✔ phase1VoltageTooHigh	Indicates phase 1 supply voltage is above the phase1VoltageHighThreshold
✔ phase1VoltageTooLow	Indicates phase 1 supply voltage is below the phase1VoltageLowThreshold
✔ phase1CurrentTooHigh	Indicates the phase 1 current is above the phase1CurrentHighThreshold
✔ phase1CurrentTooLow	Indicates the phase 1 current is below the phase1CurrentLowThreshold
✔ phase1ActivePowerTooHigh	Indicates the phase 1 active power is above the phase1ActivePowerHighThreshold
✔ phase1ActivePowerTooLow	Indicates the phase 1 active power is below the phase1ActivePowerLowThreshold
✔ phase2VoltageTooHigh	Indicates phase 2 supply voltage is above the phase2VoltageHighThreshold
✔ phase2VoltageTooLow	Indicates phase 2 supply voltage is below the phase2VoltageLowThreshold
✔ phase2CurrentTooHigh	Indicates the phase 2 current is above the phase2CurrentHighThreshold
✔ phase2CurrentTooLow	Indicates the phase 2 current is below the phase2CurrentLowThreshold
✔ phase2ActivePowerTooHigh	Indicates the phase 2 active power is above the phase2ActivePowerHighThreshold
✔ phase2ActivePowerTooLow	Indicates the phase 2 active power is below the phase2ActivePowerLowThreshold
✔ phase3VoltageTooHigh	Indicates phase 3 supply voltage is above the phase3VoltageHighThreshold
✔ phase3VoltageTooLow	Indicates phase 3 supply voltage is below the phase3VoltageLowThreshold
✔ phase3CurrentTooHigh	Indicates the phase 3 current is above the phase3CurrentHighThreshold

✔	phase3CurrentTooLow	Indicates the phase 3 current is below the phase3CurrentLowThreshold
✔	phase3ActivePowerTooHigh	Indicates the phase 3 active power is above the phase3ActivePowerHighThreshold
✔	phase3ActivePowerTooLow	Indicates the phase 1 active power is below the phase2ActivePowerLowThreshold
✔	supplyLoss	Indicates loss of supply (power).

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
✔	levelHighThreshold	Light level above which a levelTooHigh event is triggered.
✔	levelLowThreshold	Light level below which a levelTooLow event is triggered.
✔	lightLevel	Illuminance level.
✔	levelTooHigh	Indicates the light level is above the levelHighThreshold.
✔	levelTooLow	Indicates the light level is below the levelLowThreshold.
✔	applicationType	Application Type of the light sensor depending on the use case. E.g.: Day light detector

Events

#	Event type	Description
✔	levelTooHigh	Indicates the light level is above the levelHighThreshold
✔	levelTooLow	Indicates the light level is below the levelLowThreshold

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.
✔	sensorOutputOn	Indicates the sensor output changed to ON.
✔	applicationType	Application Type of the binary sensor depending on the use case. E.g.: Door opened sensor

Events

#	Event type	Description
✔	sensorOutputOn	Indicates the sensor output changed to ON

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
✔	levelHighThreshold	Threshold above which a levelTooHigh event is triggered.
✔	levelLowThreshold	Threshold below which a levelTooLow event is triggered.
✔	level	Sensor Output level.
✔	levelTooHigh	Indicates the sensor output level is above the levelHighThreshold.
✔	levelTooLow	Indicates the sensor output level is below the levelLowThreshold.
✔	applicationType	Application Type of the generic sensor depending on the use case. E.g.: Sound sensor

Events

#	Event type	Description
✔	levelTooHigh	Indicates the sensor output level is above the levelHighThreshold
✔	levelTooLow	Indicates the sensor output level is below the levelLowThreshold

Generic Actuator

The Generic 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 generic actuator. This shall be applicable if no other command is active.
✔	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 generic 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.
✔	stateChange	The state has changed.
✔	calendarID	TALQ Address of the calendar controlling this generic 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	This event is generated when a calendar has been allocated and can not be implemented it.
✔	invalidProgram	This event is generated when a control program has been allocated and can not be implemented it.
✔	programChange	This event is generated when the control program applicable to the actuator has changed.
✔	calendarChange	This event is generated when the calendar applicable to the actuator has changed.
✔	targetCommandChange	This event is generated when the targetCommand has changed.
✔	applicationType	Application Type of the generic actuator depending on the use case. E.g.: Water valve

Events

#	Event type	Description
✔	stateChange	The state has changed.
✔	invalidCalendar	This event is generated when a calendar has been allocated and can not be implemented it.
✔	invalidProgram	This event is generated when a control program has been allocated and can not be implemented it.
✔	programChange	This event is generated when the control program applicable to the actuator has changed.
✔	calendarChange	This event is generated when the calendar applicable to the actuator has changed.
✔	targetCommandChange	This event is generated when the targetCommand has changed.

Presence Sensor

The Presence Sensor function allows a CMS to detect presence. This function may be used in Parking Place detectors as well as in dynamic outdoor lighting scenario.

Attributes

#	Attribute	Description
✔	presenceStatus	Presence status.
✔	presenceStatusChanged	Indicates the presence status changed.
✔	applicationType	Application Type of the presence sensor depending on the use case. E.g.: Presence detector

Events

#	Event type	Description
✔	presenceStatusChanged	Indicates the presence status changed.

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 • 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

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

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

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.

*: 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 (v2.7.0-online.1) on 2026-03-09 18:26:28.429 +0100.