



Certified Capability List

This Capability List is based on a certification session performed by the *TALQ Certification Tool (v2.7.1-online.4)* on 2026-08-28 22:27:23.272 +0200.

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

The tool has succesfully performed 42 tests.

Product details

Product Name	Gateway Synergy
Company	DITRA Solutions
Type	GATEWAY
Notes	
Generated on	2026-08-28 22:27:23.272 +0200
Supported profiles	Lighting
API version certified:	2.7.1

Certification performed by app version: 2.7.1-online.4

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

6 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

7 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

1 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 **CONTROL-6** single light point when a presence sensor is triggered.

Adjust dimming level on noise detection

The Gateway runs a local control program that changes the dimming level of a single **CONTROL-7** point when a noise sensor is triggered.

Alarming

3 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

5 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 ($\pm$ 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) ✓

PROGRAM-7

7/9/26, 14:16	DITRA Solutions-Gateway Synergy-2026-08-28 22:27:23.272 +0200-GATEWAY-TALQv2.7.1-online.4-CapabilityList
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).	
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. |
| ✓ 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 |

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. [DEPRECATED: This attribute has been deprecated and it will be removed in the next MAJOR release. Please use the new GatewayFunction.gatewayRetryPeriod instead.]
✓	crUrn	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

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
✓	switchOnCounter	Cumulative number of ON/OFF cycles since installation of the lamp. The wrap around value is $2e32 - 1$.
✓	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.
✓	reactivePower	Reactive power.
✓	apparentPower	Apparent 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
✓	totalPower	Sum of the active power consumed on phase 1, 2 and 3, or just the power for a single phase meter.
✓	totalIVAR	Sum of the reactive power consumed on phase 1, 2 and 3, or just the reactive power for a single phase meter.
✓	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).
✓	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.
✓	totalCurrent	Sum of the RMS currents 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.
✓	phase1ReactivePower	Reactive Power on phase 1.
✓	phase2ReactivePower	Reactive Power on phase 2.
✓	phase3ReactivePower	Reactive Power on phase 3.

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.

Events

#	Event type	Description
---	------------	-------------

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 - ccDate* - ccDay*	Control Program and calendar options supported are defined by announcing support for the given modes
✓	maximumCalendars		Maximum number of calendars supported
✓	maximumPrograms		Maximum number of control programs supported
✓	maxProgramsPerCalendar		Maximum number of control programs per calendar
✓	maxSwitchPointsPerProgram		Maximum number of switching points per control program

✓ maxActivePeriodsPerProgram		Maximum number of active periods per control program
✓ dayOffset	• 0	Offset of start of day
✓ ccDateSupport	• f • u • •	Indicates the ccDate options supported
✓ ccDaySupport	• f • u • •	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 • PeriodicRecordingMode • ScheduledReportingMode	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

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
✓	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.

: 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 (v2.7.1-online.4) on 2026-08-28 22:27:23.272 +0200.

 and **TALQ** are trademarks owned by the TALQ Consortium.

© TALQ Consortium

