Certified Capability List

This Capability List is based on a certification session performed by the *TALQ Certification Tool (v2.6.3-online.3) on 2025-11-11 20:28:22.506 +0530.*

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

The tool has succesfully performed *48 tests*.

Product details

Product Name	HGateway
Company	Hynetic
Type	GATEWAY
Notes	Test gateway
Generated on	2025-11-11 20:28:22.506 +0530
Supported profiles	• Lighting
API version certified:	2.6.3
Certification performed by app version:	2.6.3-online.3

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 8 of 11

Support light point control features ✔

The Gateway successfully connects to a CMS and transmits its capabilities for light point control features and services. **CFG-1**

Support cabinet control lighting features

The Gateway successfully connects to a CMS and transmits its capabilities for cabinet control lighting features and services. **CFG-2**

Support sensor-based light point control features

The Gateway successfully connects to a CMS and transmits its capabilities for sensor-based light point control features and services. **CFG-3**

Discovery of the network of devices ✔

The Gateway transmits all its devices to the CMS together with their configuration and asset information. **CFG-4**

Initialize light point electrical alarm thresholds ✔

The Gateway is able to receive the light point electrical alarm thresholds from the CMS, including Lamp Voltage Too High/Low, Lamp Current Too High/Low, Active Power Too High/Low and Power Factor Too Low — **CFG-5**

Initialize and change the cabinet control alarm thresholds ✔

The Gateway is able to receive the cabinet control electrical alarm thresholds from the CMS, including < to be defined > — **CFG-6**

Initialize and change the light point parameters

The Gateway is able to receive the light point parameters from the CMS. — **CFG-7**

Initialize and change a group of luminaires ✔

The Gateway is able to handle a command from the CMS to set or change a group of light points to assign them a control program. — **CFG-8**

Change the sampling frequency for measurements ✔

The Gateway is able to change the sampling of measurements and properly reflected in the next data log sent to the CMS. — **CFG-9**

Change the reporting frequency for measurements ✔

The Gateway is able to change the reporting frequency (how often it sends data logs to the CSM) for measurements. — **CFG-10**

Update the firmware of the hardware devices ✔

The Gateway supports data package service and accepts a data package to update firmware on a physical device. — **CFG-11**

Monitoring — 7 of 11

Measure and report basic electrical values (Current/Voltage/Active Power/Power Factor) ✔

The Gateways sends "valid values" for electrical values including mains voltage, current, active power and power factor to the CMS using one of the data logging service. — **MTG-1**

Measure and report cumulating energy counter ✔

The Gateways sends "valid growing values" for energy counter to the CMS using one of the data logging service. — **MTG-2**

Report lamps' number of operating hours ✔

The Gateways sends "valid growing values" for lamp operating hours counter to the CMS using one of the data logging service. — **MTG-3**

Report lamps' number of switch-on counter ✔

The Gateways sends "valid growing values" for lamp switch-on counter to the CMS using one of the data logging service. — **MTG-4**

Report lamps' number of supply loss counter ✔

The Gateways sends "valid growing values" for supply loss count to the CMS using one of the data logging service. **MTG-5**

Monitor the lamp level feedback when a manual override command is sent ✔

The Gateway receives a manual override command, sends it to the device and can report, using on-demand read as well as a data logger service, that the lamp level feedback is getting close to the command. **MTG-6**

Report temperature

The Gateways sends temperature values to the CMS using one of the data logging service. **MTG-8**

Report presence detection

The Gateways sends presence detection values to the CMS using one of the data logging service. **MTG-9**

Report noise level

The Gateways sends noise level values to the CMS using one of the data logging service. **MTG-10**

Report light level

The Gateways sends light level values to the CMS using one of the data logging service. **MTG-11**

Report firmware updating process ✔

The Gateway is able to report the firmware update events **MTG-12**

Controlling 2 of 7

Manual control over a light point ✔

The Gateway properly receives and handles a manual override command sent by the CMS for one single light point **CTR-1**

Manual control over a group of light points ✔

The Gateway properly receives and handles a manual override command sent by the CMS for a group of light points **CTR-2**

Manual control with a delay

The Gateway properly receives and handles a manual override command that includes a delay, sent by the CMS for one single light point. **CTR-3**

Manual control with a ramp

The Gateway properly receives and handles a manual override command that includes a rampup, sent by the CMS for one single light point. **CTR-4**

Automatic switch light on/off based on photocell value

CTR-5

The Gateway can properly execute a control program that switches the light ON and OFF based on a local photocell value on a single light point.

Automatic change of light level when presence detected

The Gateway can properly execute a control program that changes the light dimming level based on a local presence sensor on a single light point. **CTR-6**

Automatic change of light level when noise detected

The Gateway can properly execute a control program that changes the light dimming level based on a local noise sensor on a single light point. **CTR-7**

Alarming **3 of 5**

Report lighting alarms to the CMS ✔

The Gateway can produce lighting alarms and send them to the CMS using one of the data logger services. **ALR-1**

Report electrical alarms to the CMS ✔

The Gateway can produce electrical alarms and send them to the CMS using one of the data logger services. **ALR-2**

Report invalid program and calendar

The Gateway can produce invalid calendar and control program alarms and send them to the CMS using one of the data logger services. **ALR-3**

Report activity for sensor based lighting

The Gateway can send an event in case of activity detected and send them to the CMS using one of the data logger services. **ALR-4**

Request the status of the alarm ✔

The Gateway can report the status of the alarms as a response to a request from the CMS **ALR-5**

Programming **6 of 9**

Fix time switching+dimming control program that applies to all days in the year ✔

The Gateway can receive and execute a control program that switches and dims a light point at fix time all days in the year. **PRG-1**

Astro-clock switching + fix time dimming control program that applies to all days in the year ✔

The Gateway can receive and execute a control program that switches a light point at sunrise/sunset +/- few minutes and dim it during an astro-clock active period, all days in the year. **PRG-2**

Photocell switching + fix time dimming control program that applies to all days in the year

The Gateway can receive and execute a control program that switches a light point when photocell indicates darkness and dim it during the photocell active period, all days in the year. **PRG-3**

Photocell and astro-clock switching + fix time dimming control program that applies to all days in the year

The Gateway can receive and execute a control program that switches a light point when photocell indicates darkness or at sunrise/sunset +:- few minutes (the earlier for switch ON/OFF) and dim it during the photocell active period, all days in the year. **PRG-4**

Part night switching program ✔

The Gateway can receive and execute a control program that switches a light point OFF at fixed time in the middle of the night. **PRG-5**

Support exceptional periods (e.g., Sept 10th to Oct 16th) ✔

The Gateway can receive and execute a calendar that has a default rule for all days in the year and another higher priority calendar that applies from DAY 1 to DAY 2. **PRG-6**

Support exceptional week days (e.g., every Saturday and Sunday) ✔

The Gateway can receive and execute a calendar that has a default rule for all days in the year and another higher priority calendar that applies every Saturday night and Sunday night, every day in the year. **PRG-7**

Support exceptional week days (e.g., every Saturday and Sunday) and exceptional periods (e.g., Sept 10th to Oct 16th) ✔

The Gateway can receive and execute a calendar that has a default rule for all days in the year, another higher priority calendar that applies every Saturday night and Sunday night, every day in the year and another higher priority calendar that applies to every saturday between DAY 1 and DAY 2. **PRG-8**

Support dynamic lighting program based on sensor detection

The Gateway can receive and execute a control program that has rule based on presence sensor. **PRG-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
✔	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.
✔ hwVersion	Hardware revision of the device.
✔ swType	Software type of device. This attribute may be useful if the same hardware supports multiple firmware versions with different functions.
✔ swVersion	Software version installed on the device.
✔ installationDate	The installation date of Physical 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.
✔ softwareUpdating	Indicates software updating is in progress.
✔ hardwareUpdating	Indicates that hardware associated with this logical device has been updated. [DEPRECATED: This attribute has been deprecated and it will be removed in the next MAJOR release. Please use the new hardwareUpdated instead.]
✔ hardwareUpdated	Indicates that hardware associated with this logical device has been updated.
✔ batteryMode	Device operating in battery mode.
✔ installationMode	Device is being installed.
✔ maintenanceMode	Device is undergoing maintenance, where maintenance may include hardware or software related maintenance actions.
✔ batteryShutdown	Indicates the device has shut down due to battery discharge.
✔ locationUpdated	Indicates the location of a device has changed, but detecting the change is outside the scope of the TALQ Specification. [DEPRECATED: This attribute has been deprecated and it will be removed in the next MAJOR release. Please use the new LocationSensorFunction.locationChanged 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],en d[/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.]
✔ ntpServers	List of NTP servers to use for time synchronization (Hostname or IP address). [DEPRECATED: This attribute has been deprecated and it will be removed in the next MAJOR release. Please use the new TimeFunction.ntpServers instead.]
✔ ntpSynchPeriod	Number of hours between two time synchronization updates. [DEPRECATED: This attribute has been deprecated and it will be removed in the next MAJOR release. Please use the new TimeFunction.ntpSynchPeriod 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.]
✔ commandConfirmation	Allows the CMS to reboot, factory reset or configuration reset of the device. Before rebooting or resetting the device this attribute has to be true. Default value = false
✔ reboot	Reboot the device. This operational attribute requires the commandConfirmation attribute value to be set to true.
✔ factoryReset	Reset the device to factory settings. This operational attribute requires the commandConfirmation attribute value to be set to true.
✔ configurationReset	Reset the device configuration settings. This operational attribute requires the commandConfirmation attribute value to be set to true.
✔ operatingHours	Number of operating hours of the device.

Events

#	Event type	Description
✔	deviceReset	The physical device containing the logical device was reset
✔	softwareUpdating	Indicates software updating is in progress
✔	hardwareUpdated	Indicates that hardware associated with this logical device has been updated

✔	batteryMode	Device operating in battery mode
✔	installationMode	Device is being installed
✔	maintenanceMode	Device is undergoing maintenance
✔	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
✔	communicationType	Type of communication technology implemented by the ODN (e.g. power line, wireless).
✔	logicalAddress	Logical address for communication within the ODN scope (IP address, Short Address, ...).
✔	altLogicalAddress	Additional logical address used for communication within the ODN, for instance, group communication address (not a TALQ group address).
✔	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.
✔	timeToLive	Number of times a packet can be forwarded within the ODN.
✔	repeatingEnabled	Describes whether repeating functionality is enabled at the device.

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

✔	lampTypeId	TALQ Address of an existing lampType.
✔	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.
✔	lampTypeId	TALQ Address of an existing lamp type. If not set to a valid value, this shall be the lamp type used in the lamp actuator. If this attribute is not supported in the implementation, the lamp monitor shall use the lamp type specified in the corresponding lamp actuator.
✔	monitoringReference	Name of the entity (or physical device) being monitored by this function.
✔	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
✔	numberOfLamps	Number of lamps being monitored by the lamp monitor function.
✔	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.
✔	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.
✔	reactivePower	Reactive power.
✔	apparentPower	Apparent Power.
✔	powerFactor	Active power/Apparent power.
✔	powerFactorSense	Phase sense of power factor.
✔	activeEnergy	Cumulative active energy (since installation or counter reset).
✔	supplyLossCount	Incrementing count of supply losses. The wrap around value is 2e32 - 1.
✔	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.
✔	lampFailure	The lamp is not operating as it is supposed to (e.g. the lamp is broken). This event shall be used to detect a situation where the lamp (or LED module(s)) should be lit, but produce no light. This could be detected by the current flowing or power consumed.
✔	dimmingFailure	The lamp is not dimming as it is supposed to (e.g. the driver is not connected properly). This event shall be used to detect a situation where the lamp (or LED module(s)) is lighting at a dimming level which is different from the expected dimming level, taking into account the programmed (or manual) level as well any correction (e.g. virtual power, constant light output).
✔	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.
✔	highTemperature	Indicates temperature is above the high threshold [DEPRECATED: This attribute has been deprecated and it will be removed in the next MAJOR release. Please use the new TemperatureSensorFunction.temperatureTooHigh instead.]
✔	relayFailure	Set in case of internal relay is failing (e.g. it may be stuck in either on or off position). Typically if contactor error isused as well.
✔	absolutLampPowerTooHigh	Indicates the power is above the lampPowerHighThreshold in the lamp type. [DEPRECATED: This attribute has been deprecated and it will be removed in the next MAJOR release. Please use the new absoluteLampPowerTooHigh instead.]
✔	absolutLampPowerTooLow	Indicates the power is below the lampPowerLowThreshold in the lamp type. [DEPRECATED: This attribute has been deprecated and it will be removed in the next MAJOR release. Please use the new absoluteLampPowerTooLow instead.]
✔	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. This event shall be used to indicate a lamp which cycles while it should be on. The actual detection algorithm is outside the scope of this specification.
✔	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.
✔	invalidLampType	Indicates that the lamp type referred cannot be applied.
✔	supplyVoltageTooHigh	Level of supply voltage is above the highLampVoltageThreshold.
✔	supplyVoltageTooLow	Level of supply voltage is below the lowSupplyVoltageThreshold.
✔	highSupplyVoltageThreshold	Supply voltage above which the supplyVoltageTooHigh event is triggered.
✔	lowSupplyVoltageThreshold	Supply voltage below which the supplyVoltageTooLow event is triggered.
✔	applicationType	Application Type of the lamp monitor depending on the use case. E.g.: LED Monitor

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.
✔	dimmingFailure	The lamp is not dimming as it is supposed to (e.g. the driver is not connected properly). This event shall be used to detect a situation where the lamp (or LED module(s)) is lighting at a dimming level which is different from the expected dimming level, taking into account the programmed (or manual) level as well any correction (e.g. virtual power, constant light output).
✔	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
✔	invalidLampType	Indicates that the lamp type referred cannot be applied.
✔	supplyVoltageTooHigh	Level of supply voltage is above the highLampVoltageThreshold.
✔	supplyVoltageTooLow	Level of supply voltage is below the lowSupplyVoltageThreshold.

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.
✔	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.
✔ 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.
✔ 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
✔	powerFactorTooLow	talq.feature.event.ElectricalMeterFunction.powerFactorTooLow.desc
✔	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).

Services

Configuration Service

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

Options

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

Control Service

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

Options

#	Option	Value	Description

✔	supportedTypes	• AbsoluteActivePeriod • AstroClockActivePeriod • AstroClockTimeControl* • DynamicControl* • SensorActivePeriod* • AstroAndSensorActivePeriod* • ExternalControlEffect* • FixedControlEffect* • 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 • l • l	Indicates the ccDate options supported
✔	ccDaySupport	• f • u • l • l	Indicates the ccDay options supported
✔	programSecondsSupported*		Indicates whether the field of seconds is supported in programs.
✔	maxNumberOfPowerFactorThresholdDimmingCurveItems*		Maximum number of items at the powerFactorThresholdDimmingCurve of the LampType.
✔	maxNumberOfLumenDepreciationCurveItems*		Maximum number of items at the lumenDepreciationCurve of the LampType.

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	• EventRecordingMode • PeriodicRecordingMode • VendorRecordingMode • ImmediateReportingMode • ScheduledReportingMode	Recording and Reporting modes supported

✔	maximumDataLogs		Maximum number of data loggers supported
✔	samplingAccuracy		Maximum deviation of sampling moment in seconds
✔	minCollectionTime		Base time between sampling and being able to report attributes specified in a data logger
✔	minCollectionTimePerAttribute		Additional time per attribute instance between sampling and being able to report the attribute
✔	loggableAttributes	• cls:Lamp/AttributeString/status • cls:Lamp/AttributeString/brightness • cls:Lamp/AttributeString/powerConsumption • cls:Lamp/AttributeString/faultStatus	List of descriptions of the attributes within device classes that can be logged using periodic recording
✔	samplingPeriodSupported		Indicates whether the ODN supports periodic sampling for a data logger in periodic recording mode
✔	supportedTypes	• AbsoluteActivePeriod • AstroClockActivePeriod • SensorActivePeriod* • AstroAndSensorActivePeriod* • ValueActivePeriod	Data Collect options supported are defined by announcing support for the given modes

Events

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

On Demand Data Request Service

This service provides the mechanism to access attributes in the logical devices by requesting attribute values from the ODN

Group Management Service

This service provides the mechanisms to define and manage groups

Options

#	Option	Value	Description
✔	maximumNumberOfGroups		Maximum number of groups per Gateway
✔	maximumGroupSize		Maximum number of group members per group

Data Package Transfer Service*

This service provides a mechanism to transfer data packages containing ODN vendor specific information to the Gateway via the CMS

Events

#	Event Type	Description
✔	releaseMismatch	The release indicated as expected does not match the actual release of the Gateway.
✔	changeReleaseFailure	Change release failed. Operation is rolled back.
✔	packageChangeFailure	A Package change operation failed. Operation is rolled back.
✔	changingRelease	Indicates the Gateway is in the process of changing release.
✔	packageDownloaded	Indicate the Gateway has downloaded a package.

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 (v2.6.3-online.3) on 2025-11-11 20:28:22.506 +0530.