

MQTT Bridge Message Schema

VERSION 1.0.1

Date	Version	Description	Author
5-1-2025	1.0	Initial Version	Mike Primm
8-20-2025	1.0.1	Add MergedTagMsg definition, formatting fixes	Mike Primm

Introduction

This OpenAPI document describes the MQTT v3.1.1 and v5 message schemas provided by the RF Code MQTT Bridge service. The configuration file for the service controls the values of the '<prefix>' fields (brokerPrefix - default value 'rfcode') and the '<clientID>' fields (clientID - default value 'RFCodeMQTTBridge'). Applications using this specification should be prepared for possible tailoring of these values by customer deployments.

Attributes

For all messages with '<location>' in their topic, an unknown or unassigned location will be encoded as '\$unknown'

Configuration attributes in the configuration file that are relevant to the MQTT behavior include:

- "brokerProto" - Protocol to be used by client to talk to broker ('tcp' (default) or 'ssl' (SSL/TLS))
- "brokerHostname" - Hostname to reach the broker (default localhost)
- "brokerPort" - Port number for broker (default 1883)
- "brokerUserID" - Optional user ID to be used to communicate with MQTT Broker
- "brokerPassword" - Optional password to be used to communicate with MQTT Broker. Rewritten with obfuscated value when first read by agent.
- "brokerPrefix" - Prefix for all MQTT messages from client (default is 'rfcode')
- "brokerVersion" - Version of MQTT protocol for broker (V3_1_1 (default) or V5)
- "brokerRetain" - Control whether messages are sent as retained (true) or not (false - default)
- "brokerQos" - QOS to use for published messages to broker (0=at most 1, 1=at least 1 (default), 2=exactly 1)
- "brokerMaxInflight" - Maximum number of unacknowledged publish messages (Qos=1 or 2) before client will delay further sending. Default is 10, but high traffic or high latency environments might benefit from a higher value.
- "clientID" - MQTT client ID of the client (default RFCodeMQTTBridge). IMPORTANT: this needs to be unique to a given MQTT broker - if two clients have the same ID, they will replace one another (the second connection 'bumps' the first one).
- "zoneMgrHostname" - hostname or IP address of zone manager
- "zoneMgrPort" - port number for zone manager HTTP/HTTPS API
- "zoneMgrUserID" - user ID to be used to communicate with Zone Manager
- "zoneMgrPassword" - password to be used to communicate with Zone Manager. Rewritten with obfuscated value when first read by agent.
- "zoneMgrProto" - protocol for API to Zone manager (http or https)"tagGroupCodeFilter" - if defined and not empty, list of specific tag group codes to limit reporting tags to (will cause any tags from the ZM with different group codes to be ignored).
- "zoneMgrRefreshDelay" - if defined, provides number of seconds of delay (0 or more) between refresh calls to Zone Manager. Increasing this can marginally reduce load on the server, but at the expense of the timeliness of the reporting of new data. Default is 1.
- "tagLocationFilter" - if defined and not empty, list of specific location IDs to limit reporting tags to (will cause any tags not in/under one of these locations to be not added or kept offline if already added). "" can be used to include tags with unknown locations.
- "tagExpLocationFilter" - if defined and not empty, list of specific expected location IDs to limit reporting tags to (will cause any tags not expected to be in/under one of these locations to be not

added or kept offline if already added). "" can be used to include tags with unknown expected locations. Note: this requires CS/ZM 1.8.3 or later.

- "onlyAssetBoundTags": If defined and true, limits tags reported and monitored to those associated with an asset (that is, provisioned within CenterScape). Otherwise, all detected tags are reported (which is likely appropriate for standalone Zone Manager deployments).
- "topicFilter" - if defined and not empty, this limits which topics should be reported (which can be useful way to not expose data that is not of interest, or to split such data across different agents).

Topic names include:

- "TagGroupCode"
- "Location"
- "ReaderStatus"
- "BaseTag"
- "TempTag"
- "HumidTag"
- "FluidTag"
- "DoorTag"
- "PDUTag"
- "DryContactTag"
- "TempTagByLoc"
- "HumidTagByLoc"
- "FluidTagByLoc"
- "DoorTagByLoc"
- "DryContactTagByLoc"
- "PDUTagByLoc"
- "DiffPressTag"
- "DiffPressTagByLoc"
- "PDUTagPhase"
- "PDUTagByLocPhase"
- "PDUTagOutlet"
- "PDUTagByLocOutlet"
- "MergedTag"

Note: disabling some topics (e.g. Locations) might make data unavailable that otherwise would be referred to by other topics (the details of a location referred to by various tag topics)

Components

Schema

ZMVersionMsg

Title: ZoneManager Version message (<prefix>/<clientID>/zm/version)

Version information message for ZoneManager connected to by the MQTT client. This will be reported on topic '`\<prefix\>\<clientID\>/zm/version'`.

V5 Content type is 'rfcode.ZMVersion'

Properties

Name	Description	Schema
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product <i>optional</i>	Name of product containing the Zone Manager	string
build <i>optional</i>	Build ID of the product	string
release <i>optional</i>	Release ID of the product	string
configHashcode <i>optional</i>	Distinctive hash code for the configuration of the Zone Manager - changes whenever any settings there are updated.	string

ZMConnectStatusMsg

Title: ZoneManager Connection Status message (<prefix>/<clientID>/zm/connectStatus)

Current connection status for the ZoneManager connect to by the MQTT client. This will be set to "Offline" when the client terminates for any reason (using the MQTT Last Will and Testament feature). Reported on topic '\<prefix>/\<clientID>/zm/connectStatus'.

ReaderStatusMsg

Title: Reader Status message (<prefix>/<clientID>/ReaderStatus/<id>)

Reports the definition and status of a reader configured on the Zone Manager. If reader is deleted, a message with only the 'id' field defined will be reported.

Reported on topic '\<prefix>/\<clientID>/ReaderStatus/\<id>'. V5 Content type is 'rfcode.ReaderStatus'.

Properties

Name	Description	Schema
id <i>required</i>	Unique ID of the reader	string
timestamp <i>optional</i>	Timestamp of most recent reported data, in UTC milliseconds.	integer (int64)
name <i>optional</i>	Label assigned to the reader	string
hostname <i>optional</i>	Hostname or IP address of the reader, if any	string
port <i>optional</i>	Port number of the reader, if any	integer
firmwareVersion <i>optional</i>	Firmware version of the reader, if known	string
firmwareFamily <i>optional</i>	Firmware family of the reader, if known	string
readerStatus <i>optional</i>	Current connection status of reader	enum (DISABLED,CONNECTING,INITIALIZING,INITIALIZED,ACTIVE,DISCONNECTING,DISCONNECTED,READERFAILURE,CONFIGFAILURE,CONNECTFAILURE,NOISEDETECTED,UNKNOWN,ACCESSDENIED,HIGHTRAFFIC,FIRMWAREUPGRADING)
macAddress <i>optional</i>	MAC address of reader, if known	string
serialNumber <i>optional</i>	Serial number of reader, if known	string

ReaderStatusField

Title: Reader Status (<prefix>/<clientID>/ReaderStatus/<id>/status)

Simplestring value of current reader status. Reported on topic '`<prefix>/<clientID>/ReaderStatus/<id>/status`'.

TagGroupMsg

Title: Tag Group Code message (<prefix>/<clientID>/TagGroupCode/<groupCode>)

Reports configured tag group on the Zone Manager. If group code is removed, a message is reported with just the 'id' and 'groupCode' fields.

Reported on topic '`<prefix>/<clientID>/TagGroupCode/<groupCode>`'. V5 Content type is 'rfcode.TagGroupCode'.

Properties

Name	Description	Schema
<i>id required</i>	Unique ID of the configured group code	string
<i>timestamp optional</i>	Timestamp of most recent reported data, in UTC milliseconds.	integer (int64)
<i>groupCode required</i>	Group code value for the tags in the given group.	string
<i>type optional</i>	Tag type for the given group.	string
<i>timeOut optional</i>	Time out period for tags in given group, in seconds.	integer
<i>name optional</i>	Label for the tag group	string
<i>locUpdateDelay optional</i>	Location update delay for tags in given group, in seconds.	integer

LocationMsg

Title: Location message (<prefix>/<clientID>/Location/<id>)

Message describing location within the system. When location is deleted, a message is sent with just the 'id' field.

Reported on topic '`<prefix>/<clientID>/Location/<id>`'. V5 Content type is 'rfcode.Location'.

Properties

Name	Description	Schema
<i>id required</i>	Unique ID of the location	String
<i>timestamp optional</i>	Timestamp of most recent reported data, in UTC milliseconds.	integer (int64)
<i>parentID optional</i>	Unique ID of the parent of the location, if any.	string
<i>path optional</i>	Full list of locations, from first ancestor to the location itself.	< string > array

type <i>optional</i>	Type of location, if any	enum (,RACK)
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BaseTagMsg

Title: Base Tag message (<prefix>/<clientID>/BaseTag/<id>)

Base (common) tag attributes, representing status and detected data common to all types of tags. When a tag is deleted, a message will be sent with just the 'id' attribute set.

Reported on topic '`<prefix>/<clientID>/BaseTag/<id>`'. V5 Content type is 'rfcode.BaseTag'.

Properties

Name	Description	Schema
id <i>required</i>	Unique ID of the tag	string
timestamp <i>optional</i>	Timestamp of most recent reported data, in UTC milliseconds.	integer (int64)
online <i>optional</i>	Indicates the online status of the tag. Online tags are true, while offline tags are false.	boolean
location <i>optional</i>	When detected, the ID of the best matching location for where the tag is currently being detected.	string
groupCode <i>optional</i>	The groupCode value of the tag group associated with the tag.	string
lowBatt <i>optional</i>	Indicates whether the tag has reported a low battery condition (true) or not (false).	boolean
lastUpdated <i>optional</i>	The timestamp (in UTC milliseconds) of the most recent update for this tag.	integer
msgLoss <i>optional</i>	The percentage of beacons estimated to not have been received from this tag. -1 = unknown.	number
expLocs <i>optional</i>	The list of zero or more IDs of the locations where this tag is expected to be found.	< string > array
name <i>optional</i>	The label for the asset associated with this tag, else the ID of the tag (if no asset is assigned).	string

TempTagMsg

Title: Temp Tag message (<prefix>/<clientID>/TempTag/<id>)

Reports for data specific to tags reporting temperature readings (temp only or temp/humidity tags). When a tag is deleted, a message will be sent with just the 'id' attribute.

Reported on topic '\<prefix>/\<clientID>/TempTag/\<id>'. V5 Content type is 'rfcode.TempTag'.

Properties

Name	Description	Schema
<i>id required</i>	Unique ID of tag	string
<i>timestamp optional</i>	Timestamp of most recent reported data, in UTC milliseconds.	integer (int64)
<i>online optional</i>	Indicates the online status of the tag. Online tags are true, while offline tags are false.	boolean
<i>tempF optional</i>	Current temperature reported, in degrees F.	number
<i>tempC optional</i>	Current temperature reported, in degrees C.	number
<i>name optional</i>	The label for the asset associated with this tag, else the ID of the tag (if no asset is assigned).	string

TempTagByLocMsg

Title: Temp Tag By Location message (<prefix>/<clientID>/TempTagByLoc/<location>/<id>)

Reports for data specific to tags reporting temperature readings (temp only or temp/humidity tags), categorized by their expected location(s). When a tag is deleted, or no longer is expected at a given location (is intentionally moved), a message will be sent with just the 'id' and 'location' attributes.

Reported on topic '\<prefix>/\<clientID>/TempTagByLoc/\<location>/\<id>'. V5 Content type is 'rfcode.TempTagByLoc'.

Properties

Name	Description	Schema
<i>location required</i>	The ID of the expected (not detected) location of the tag.	string
<i>id required</i>	Unique ID of tag	string
<i>timestamp optional</i>	Timestamp of most recent reported data, in UTC milliseconds.	integer (int64)
<i>online optional</i>	Indicates the online status of the tag. Online tags are true, while offline tags are false.	Boolean
<i>tempF optional</i>	Current temperature reported, in degrees F.	number
<i>tempC optional</i>	Current temperature reported, in degrees C.	number

name <i>optional</i>	The label for the asset associated with this tag, else the ID of the tag (if no asset is assigned).	string
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HumidTagMsg

Title: Humid Tag message (<prefix>/<clientID>/HumidTag/<id>)

Reports for data specific to tags reporting humidity readings (temp/humidity tags). When a tag is deleted, a message will be sent with just the 'id' attribute.

Reported on topic '\<prefix>/\<clientID>/HumidTag/\<id>'. V5 Content type is 'rfcode.HumidTag'.

Properties

Name	Description	Schema
<i>id required</i>	Unique ID of tag	string
<i>timestamp optional</i>	Timestamp of most recent reported data, in UTC milliseconds.	integer (int64)
<i>online optional</i>	Indicates the online status of the tag. Online tags are true, while offline tags are false.	boolean
<i>humidity optional</i>	Current relative humidity reported, in percent RH.	number
<i>dewPointF optional</i>	Current dew point reported, in degrees F.	number
<i>dewPointC optional</i>	Current dew point reported, in degrees C.	number
<i>name optional</i>	The label for the asset associated with this tag, else the ID of the tag (if no asset is assigned).	string

HumidTagByLocMsg

Title: Humid Tag By Location message (<prefix>/<clientID>/HumidTagByLoc/<location>/<id>)

Reports for data specific to tags reporting humidity readings (temp/humidity tags), categorized by their expected location(s). When a tag is deleted, or no longer is expected at a given location (is intentionally moved), a message will be sent with just the 'id' and 'location' attributes.

Reported on topic '<prefix>/<clientID>/HumidTagByLoc/<location>/<id>'. V5 Content type is 'rfcode.HumidTagByLoc'.

Properties

Name	Description	Schema
location <i>required</i>	The ID of the expected (not detected) location of the tag	string
id <i>required</i>	Unique ID of tag	string
timestamp <i>optional</i>	Timestamp of most recent reported data, in UTC milliseconds.	integer (int64)
online <i>optional</i>	Indicates the online status of the tag. Online tags are true, while offline tags are false.	boolean
humidity <i>optional</i>	Current relative humidity reported, in percent RH.	number
dewPointF <i>optional</i>	Current dew point reported, in degrees F.	number
dewPointC <i>optional</i>	Current dew point reported, in degrees C.	number
name <i>optional</i>	The label for the asset associated with this tag, else the ID of the tag (if no asset is assigned).	string

DoorTagMsg

Title: Door Tag message (<prefix>/<clientID>/DoorTag/<id>)

Reports for data specific to tags reporting door opened/closed readings. When a tag is deleted, a message will be sent with just the 'id' attribute.

Reported on topic '\<prefix\>/\<clientID\>/DoorTag/\<id\>'. V5 Content type is 'rfcode.DoorTag'.

Properties

Name	Description	Schema
<i>id required</i>	Unique ID of tag	string
<i>timestamp optional</i>	Timestamp of most recent reported data, in UTC milliseconds.	integer (int64)
<i>online optional</i>	Indicates the online status of the tag. Online tags are true, while offline tags are false.	boolean
<i>doorOpen optional</i>	Current door state - open (true) or closed (false).	boolean
<i>name optional</i>	The label for the asset associated with this tag, else the ID of the tag (if no asset is assigned).	string

DoorTagByLocMsg

Title: Door Tag By Location message (<prefix>/<clientID>/DoorTagByLoc/<location>/<id>)

Reports for data specific to tags reporting door opened/closed state, categorized by their expected location(s). When a tag is deleted, or no longer is expected at a given location (is intentionally moved), a message will be sent with just the 'id' and 'location' attributes.

Reported on topic '\<prefix>/\<clientID>/DoorTagByLoc/\<location>/\<id>'. V5 Content type is 'rfcode.DoorTagByLoc'.

Properties

Name	Description	Schema
location <i>required</i>	The ID of the expected (not detected) location of the tag.	string
id <i>required</i>	Unique ID of tag	string
timestamp <i>optional</i>	Timestamp of most recent reported data, in UTC milliseconds.	integer (int64)
online <i>optional</i>	Indicates the online status of the tag. Online tags are true, while offline tags are false.	boolean
doorOpen <i>optional</i>	Current door state - open (true) or closed (false).	boolean
name <i>optional</i>	The label for the asset associated with this tag, else the ID of the tag (if no asset is assigned).	string

DryContactTagMsg

Title: Dry Contact Tag message (<prefix>/<clientID>/DryContactTag/<id>)

Reports for data specific to tags reporting dry contact switch opened/closed readings. When a tag is deleted, a message will be sent with just the 'id' attribute.

Reported on topic '\<prefix>/\<clientID>/DryContactTag/\<id>'. V5 Content type is 'rfcode.DryContactTag'.

Properties

Name	Description	Schema
id <i>required</i>	Unique ID of tag	string
timestamp <i>optional</i>	Timestamp of most recent reported data, in UTC milliseconds.	integer (int64)
online <i>optional</i>	Indicates the online status of the tag. Online tags are true, while offline tags are false.	Boolean
dryOpen <i>optional</i>	Current dry contact switch state - open (true) or closed (false).	boolean

name <i>optional</i>	The label for the asset associated with this tag, else the ID of the tag (if no asset is assigned).	string
name <i>optional</i>	The label for the asset associated with this tag, else the ID of the tag (if no asset is assigned).	string

DryContactTagByLocMsg

Title: Dry Contact Tag By Location message

(<prefix>/<clientID>/DryContactTagByLoc/<location>/<id>)

Reports for data specific to tags reporting dry contact switch opened/closed state, categorized by their expected location(s). When a tag is deleted or no longer is expected at a given location (is intentionally moved), a message will be sent with just the 'id' and 'location' attributes.

Reported on topic '\<prefix>/<clientID>/DryContactTagByLoc/<location>/<id>'. V5 Content type is 'rfcode.DryContactTagByLoc'.

Properties

Name	Description	Schema
location <i>required</i>	The ID of the expected (not detected) location of the tag.	string
id <i>required</i>	Unique ID of tag	string
timestamp <i>optional</i>	Timestamp of most recent reported data, in UTC milliseconds.	integer (int64)
online <i>optional</i>	Indicates the online status of the tag. Online tags are true, while offline tags are false.	boolean
dryOpen <i>optional</i>	Current dry contact switch state - open (true) or closed (false).	boolean
name <i>optional</i>	The label for the asset associated with this tag, else the ID of the tag (if no asset is assigned).	string

FluidTagMsg

Title: Fluid Tag message (<prefix>/<clientID>/FluidTag/<id>)

Reports for data specific to tags reporting fluid detection readings. When a tag is deleted, a message will be sent with just the 'id' attribute.

Reported on topic '\<prefix>/<clientID>/FluidTag/<id>'. V5 Content type is 'rfcode.FluidTag'.

Properties

Name	Description	Schema
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<i>id required</i>	Unique ID of tag	string
<i>timestamp optional</i>	Timestamp of most recent reported data, in UTC milliseconds.	integer (int64)
<i>online optional</i>	Indicates the online status of the tag. Online tags are true, while offline tags are false.	boolean
<i>fluidDet optional</i>	Current fluid detection state - detected (wet) (true) or not detected (dry) (false).	boolean
<i>name optional</i>	The label for the asset associated with this tag, else the ID of the tag (if no asset is assigned).	string

FluidTagByLocMsg

Title: Fluid Tag By Location message (<prefix>/<clientID>/FluidTagByLoc/<location>/<id>)

Reports for data specific to tags reporting fluid detection state, categorized by their expected location(s). When a tag is deleted, or no longer is expected at a given location (is intentionally moved), a message will be sent with just the 'id' and 'location' attributes.

Reported on topic '\<prefix>/\<clientID>/FluidTagByLoc/\<location>/\<id>'. V5 Content type is 'rfcode.FluidTagByLoc'.

Properties

Name	Description	Schema
<i>location required</i>	The ID of the expected (not detected) location of the tag.	string
<i>id required</i>	Unique ID of tag	string
<i>timestamp optional</i>	Timestamp of most recent reported data, in UTC milliseconds.	integer (int64)
<i>online optional</i>	Indicates the online status of the tag. Online tags are true, while offline tags are false.	boolean
<i>fluidDet optional</i>	Current fluid detection state - detected (wet) (true) or not detected (dry) (false).	boolean
<i>name optional</i>	The label for the asset associated with this tag, else the ID of the tag (if no asset is assigned).	string

DiffPressTagMsg

Title: Diff Pressure Tag message (<prefix>/<clientID>/DiffPressTag/<id>)

Reports for data specific to tags reporting differential air pressure readings. When a tag is deleted, a message will be sent with just the 'id' attribute.

Reported on topic '\<prefix>/\<clientID>/DiffPressTag/\<id>'. V5 Content type is 'rfcode.DiffPressTag'.

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Properties

Name	Description	Schema
<i>id required</i>	Unique ID of tag	string
<i>timestamp optional</i>	Timestamp of most recent reported data, in UTC milliseconds.	integer (int64)
<i>online optional</i>	Indicates the online status of the tag. Online tags are true, while offline tags are false.	boolean
<i>diffPress optional</i>	Current differential pressure measurement, in Pascals (Pa).	number
<i>avgDiffPress optional</i>	Current average differential pressure measurement, in Pascals (Pa).	number
<i>name optional</i>	The label for the asset associated with this tag, else the ID of the tag (if no asset is assigned).	string

DiffPressTagByLocMsg

Title: Diff Pressure Tag By Location message
 (<prefix>/<clientID>/DiffPressTagByLoc/<location>/<id>)

Reports for data specific to tags reporting differential air pressure, categorized by their expected location(s). When a tag is deleted, or no longer is expected at a given location (is intentionally moved), a message will be sent with just the 'id' and 'location' attributes.

Reported on topic '\<prefix>/\<clientID>/DiffPressTagByLoc/\<location>/\<id>'. V5 Content type is 'rfcode.DiffPressTagByLoc'.

Properties

Name	Description	Schema
<i>location required</i>	The ID of the expected (not detected) location of the tag.	string
<i>id required</i>	Unique ID of tag	string
<i>timestamp optional</i>	Timestamp of most recent reported data, in UTC milliseconds.	integer (int64)
<i>online optional</i>	Indicates the online status of the tag. Online tags are true, while offline tags are false.	boolean
<i>diffPress optional</i>	Current differential pressure measurement, in Pascals (Pa).	Number
<i>avgDiffPress optional</i>	Current average differential pressure measurement, in Pascals (Pa).	
<i>name optional</i>	The label for the asset associated with this tag, else the ID of the tag (if no asset is assigned).	

PDUTagMsg

Title: PDU Tag message (<prefix>/<clientID>/PDUTag/<id>)

Reports for data specific to tags reporting data from an attached PDU (or set of PDUs). These data are for the overall PDU values. When a tag is deleted, a message will be sent with just the 'id' attribute. Reported on topic '\<prefix>/\<clientID>/PDUTag/\<id>'. V5 Content type is 'rfcode.PDUTag'.

Properties

Name	Description	Schema
<i>id required</i>	Unique ID of tag	string
<i>timestamp optional</i>	Timestamp of most recent reported data, in UTC milliseconds.	integer (int64)
<i>online optional</i>	Indicates the online status of the tag. Online tags are true, while offline tags are false.	boolean
<i>vendor optional</i>	Vendor of PDU	string
<i>model optional</i>	Model of PDU	string
<i>serialNum optional</i>	Serial number of PDU	string
<i>asset optional</i>	Asset ID of PDU	string
<i>towerCount optional</i>	Number of towers for given PDU tag	integer
<i>modelList optional</i>	List of model names (one for each tower)	< string > array
<i>serialNumList optional</i>	List of serial numbers (one for each tower)	< string > array
<i>assetList optional</i>	List of asset IDs (one for each tower)	< string > array
<i>pduDisconnected optional</i>	Indicates if PDU is disconnected from tag (true) or not (false).	Boolean
<i>disconnectedTowers optional</i>	Indexes of PDUs that are not connected.	
<i>truePower optional</i>	Current true (active) power draw for PDU, in Watts.	
<i>appPower optional</i>	Current apparent power draw for PDU, in Volt-Amps.	
<i>totWattHours optional</i>	Current cumulative true (active) energy consumed by PDU since totPowerTS, in Watt-Hours.	

totVoltAmpHours <i>optional</i>	Current cumulative apparent energy consumed by PDU since totPowerTS, in Volt-Amp-Hours.	
totPowerTS <i>optional</i>	Timestamp when total cumulative energy consumed values were last reset to zero (in UTC milliseconds).	
powerFactor <i>optional</i>	Current power factor for power draw from PDU (apparent / active), in percent.	
name <i>optional</i>	The label for the asset associated with this tag, else the ID of the tag (if no asset is assigned).	

PDUTagByLocMsg

Title: PDU Tag By Location message (<prefix>/<clientID>/PDUTagByLoc/<location>/<id>)

Reports for data specific to tags reporting data from an attached PDU (or set of PDUs), categorized by the expected location of the tags. These data are for the overall PDU values. When a tag is deleted, a message will be sent with just the 'id' attribute.

Reported on topic '\<prefix\>/\<clientID\>/PDUTagByLoc/\<location\>/\<id\>'. V5 Content type is 'rfcode.PDUTagByLoc'.

Properties

Name	Description	Schema
location <i>required</i>	The ID of the expected (not detected) location of the tag.	string
id <i>required</i>	Unique ID of tag	string
timestamp <i>optional</i>	Timestamp of most recent reported data, in UTC milliseconds.	integer (int64)
online <i>optional</i>	Indicates the online status of the tag. Online tags are true, while offline tags are false.	boolean
vendor <i>optional</i>	Vendor of PDU	string
model <i>optional</i>	Model of PDU	string

Name	Description	Schema
serialNum <i>optional</i>	Serial number of PDU	string
asset <i>optional</i>	Asset ID of PDU	string
towerCount <i>optional</i>	Number of towers for given PDU tag	integer
modelList <i>optional</i>	List of model names (one for each tower)	< string > array
serialNumList <i>optional</i>	List of serial numbers (one for each tower)	< string > array
assetList <i>optional</i>	List of asset IDs (one for each tower)	< string > array
pduDisconnect ed <i>optional</i>	Indicates if PDU is disconnected from tag (true) or not (false).	boolean
disconnectedT owers <i>optional</i>	Indexes of PDUs that are not connected.	< integer> array
truePower <i>optional</i>	Current true (active) power draw for PDU, in Watts.	number
appPower <i>optional</i>	Current apparent power draw for PDU, in Volt-Amps.	number
totWattHours <i>optional</i>	Current cumulative true (active) energy consumed by PDU since totPowerTS, in Watt-Hours.	number
totVoltAmpHo urs <i>optional</i>	Current cumulative apparent energy consumed by PDU since totPowerTS, in Volt-Amp-Hours.	number
totPowerTS <i>optional</i>	Timestamp when total cumulative energy consumed values were last reset to zero (in UTC milliseconds).	number
powerFactor <i>optional</i>	Current power factor for power draw from PDU (apparent / active), in percent.	number
name <i>optional</i>	The label for the asset associated with this tag, else the ID of the tag (if no asset is assigned).	string

PDUTagPhaseMsg

Title: PDU Phase Tag message (<prefix>/<clientID>/PDUTagPhase/<id>/<feedSetID>/<phaseID>)

Reports for data specific to tags reporting data from an attached PDU about a specific phase on a specific feed line set. When a tag is deleted, a message will be sent with just the 'id', 'feedSetID', and 'phaseID' attributes.

Reported on topic '\<prefix>/<clientID>/PDUTagPhase/<id>/<feedSetID>/<phaseID>'. V5 Content type is 'rfcode.PDUTagPhase'.

Properties

Name	Description	Schema
<i>id required</i>	Unique ID of tag	string
<i>timestamp optional</i>	Timestamp of most recent reported data, in UTC milliseconds.	integer (int64)
<i>online optional</i>	Indicates the online status of the tag. Online tags are true, while offline tags are false.	boolean
<i>feedSetID required</i>	Index of the feed line set tied to the phase.	integer
<i>phaseID required</i>	Index of the phase.	integer
<i>config optional</i>	Indicates the configuration of the phase (which lines are providing the power for the given phase).	enum (L1-L2,L2-L3,L3-L1,L1-N,L2-N,L3-N)
<i>amps optional</i>	Most recent current draw measured for phase, in Amps.	number
<i>voltsP optional</i>	Most recent voltage measurement, for line to line voltages, in Volts.	number
<i>voltsN optional</i>	Most recent voltage measurement, for line to neutral voltages, in Volts.	number
<i>truePower optional</i>	Current true (active) power draw for phase, in Watts.	number
<i>appPower optional</i>	Current apparent power draw for phase, in Volt-Amps.	number
<i>totWattHours optional</i>	Current cumulative true (active) energy consumed by phase since totPowerTS, in Watt-Hours.	number
<i>totVoltAmpHours optional</i>	Current cumulative apparent energy consumed by phase since totPowerTS, in Volt-Amp-Hours.	number
<i>totPowerTS optional</i>	Timestamp when total cumulative energy consumed values were last reset to zero (in UTC milliseconds).	number
<i>powerFactor optional</i>	Current power factor for power draw from phase (apparent / active), in percent.	number

towerID <i>optional</i>	Index of the PDU tower associated with the phase.	integer
name <i>optional</i>	The label for the asset associated with this tag, else the ID of the tag (if no asset is assigned).	string

PDUTagByLocPhaseMsg

Title: PDU Phase Tag By Location message

(<prefix>/<clientID>/PDUTagByLocPhase/<location>/<id>/<feedSetID>/<phaseID>)

Reports for data specific to tags reporting data from an attached PDU about a specific phase on a specific feed line set, categorized by expected location. When a tag is deleted, a message will be sent with just the 'location', 'id', 'feedSetID' and 'phaseID' attributes.

Reported on topic

'<prefix>/<clientID>/PDUTagByLocPhase/<location>/<id>/<feedSetID>/<phaseID>'

V5 Content type is 'rfcode.PDUTagByLocPhase'.

Properties

Name	Description	Schema
location <i>required</i>	The ID of the expected (not detected) location of the tag.	string
id <i>required</i>	Unique ID of tag	string
timestamp <i>optional</i>	Timestamp of most recent reported data, in UTC milliseconds.	integer (int64)
online <i>optional</i>	Indicates the online status of the tag. Online tags are true, while offline tags are false.	boolean
feedSetID <i>required</i>	Index of the feed line set tied to the phase.	integer
phaseID <i>required</i>	Index of the phase.	integer
config <i>optional</i>	Indicates the configuration of the phase (which lines are providing the power for the given phase).	enum (L1-L2,L2-L3,L3-L1,L1-N,L2-N,L3-N)
amps <i>optional</i>	Most recent current draw measured for phase, in Amps.	number
voltsP <i>optional</i>	Most recent voltage measurement, for line to line voltages, in Volts.	number
voltsN <i>optional</i>	Most recent voltage measurement, for line to neutral voltages, in Volts.	number
truePower <i>optional</i>	Current true (active) power draw for phase, in Watts.	number

appPower <i>optional</i>	Current apparent power draw for phase, in Volt-Amps.	number
totWattHours <i>optional</i>	Current cumulative true (active) energy consumed by phase since totPowerTS, in Watt-Hours.	number
totVoltAmpHours <i>optional</i>	Current cumulative apparent energy consumed by phase since totPowerTS, in Volt-Amp-Hours.	number
totPowerTS <i>optional</i>	Timestamp when total cumulative energy consumed values were last reset to zero (in UTC milliseconds).	Number
powerFactor <i>optional</i>	Current power factor for power draw from phase (apparent / active), in percent.	number
towerID <i>optional</i>	Index of the PDU tower associated with the phase.	integer
name <i>optional</i>	The label for the asset associated with this tag, else the ID of the tag (if no asset is assigned).	string

PDUTagOutletMsg

Title: PDU Outlet Tag message (<prefix>/<clientID>/PDUTagOutlet/<id>/<feedSetID>/<outletID>)

Reports for data specific to tags reporting data from an attached PDU about a specific outlet on a specific feed line set. When a tag is deleted, a message will be sent with just the 'id', 'feedSetID' and 'outletID' attributes.

Reported on topic '\<prefix\>/\<clientID\>/PDUTagOutlet/\<id\>/\<feedSetID\>/\<outletID\>'. V5
Content type is 'rfcode.PDUTagOutlet'.

Properties

Name	Description	Schema
id <i>required</i>	Unique ID of tag	string
timestamp <i>optional</i>	Timestamp of most recent reported data, in UTC milliseconds.	integer (int64)
online <i>optional</i>	Indicates the online status of the tag. Online tags are true, while offline tags are false.	boolean
feedSetID <i>required</i>	Index of the feed line set tied to the phase.	integer
outletID <i>required</i>	Index of the outlet.	integer
config <i>optional</i>	Indicates the configuration of the outlet (which lines are providing the power for the given phase).	enum (L1-L2,L2-L3,L3-L1,L1-N,L2-N,L3-N)
amps <i>optional</i>	Most recent current draw measured for outlet, in Amps.	number
volts <i>optional</i>	Most recent voltage measurement, in Volts.	number
truePower <i>optional</i>	Current true (active) power draw for outlet, in Watts.	number
appPower <i>optional</i>	Current apparent power draw for outlet, in Volt-Amps.	number

Name	Description	Schema
totWattHours <i>optional</i>	Current cumulative true (active) energy consumed by outlet since totPowerTS, in Watt-Hours.	number
totVoltAmpHours <i>optional</i>	Current cumulative apparent energy consumed by outlet since totPowerTS, in Volt-Amp-Hours.	number
totPowerTS <i>optional</i>	Timestamp when total cumulative energy consumed values were last reset to zero (in UTC milliseconds).	number
powerFactor <i>optional</i>	Current power factor for power draw from outlet (apparent / active), in percent.	number
towerID <i>optional</i>	Index of the PDU tower associated with the outlet.	integer
phaseID <i>optional</i>	Index of the phase associated with the outlet.	integer
label <i>optional</i>	Default label for the outlet	string
switchState <i>optional</i>	Current switch state for the outlet (if supported): on(true) or off(false).	boolean
bankID <i>optional</i>	Index of the bank containing the outlet.	integer
name <i>optional</i>	The label for the asset associated with this tag, else the ID of the tag (if no asset is assigned).	string

PDUTagByLocOutletMsg

Title: PDU Outlet Tag By Location message

(<prefix>/<clientID>/PDUTagByLocOutlet/<location>/<id>/<feedSetID>/<outletID>)

Reports for data specific to tags reporting data from an attached PDU about a specific outlet on a specific feed line set, categorized by expected location. When a tag is deleted, a message will be sent with just the 'location', 'id', 'feedSetID' and 'outletID' attributes.

Reported on topic

'<prefix>/<clientID>/PDUTagByLocOutlet/<location>/<id>/<feedSetID>/<outletID>'

V5 Content type is 'rfcode.PDUTagByLocOutlet'.

Properties

Name	Description	Schema
location <i>optional</i>	The ID of the expected (not detected) location of the tag.	string
id <i>optional</i>	Unique ID of tag	string
timestamp <i>optional</i>	Timestamp of most recent reported data, in UTC milliseconds.	integer (int64)
Name	Description	Schema
online <i>optional</i>	Indicates the online status of the tag. Online tags are true, while offline tags are false.	boolean
feedSetID <i>optional</i>	Index of the feed line set tied to the phase.	integer
outletID <i>optional</i>	Index of the outlet.	integer
config <i>optional</i>	Indicates the configuration of the outlet (which lines are providing the power for the given phase).	enum (L1-L2,L2-L3,L3-L1,L1-N,L2-N,L3-N)
amps <i>optional</i>	Most recent current draw measured for outlet, in Amps.	number
volts <i>optional</i>	Most recent voltage measurement, in Volts.	number
truePower <i>optional</i>	Current true (active) power draw for outlet, in Watts.	number
appPower <i>optional</i>	Current apparent power draw for outlet, in Volt-Amps.	number
totWattHours <i>optional</i>	Current cumulative true (active) energy consumed by outlet since totPowerTS, in Watt-Hours.	number
totVoltAmpHours <i>optional</i>	Current cumulative apparent energy consumed by outlet since totPowerTS, in Volt-Amp-Hours.	number
totPowerTS <i>optional</i>	Timestamp when total cumulative energy consumed values were last reset to zero (in UTC milliseconds).	number

powerFactor <i>optional</i>	Current power factor for power draw from outlet (apparent / active), in percent.	number
towerID <i>optional</i>	Index of the PDU tower associated with the outlet.	integer
phaseID <i>optional</i>	Index of the phase associated with the outlet.	integer
label <i>optional</i>	Default label for the outlet	string
switchState <i>optional</i>	Current switch state for the outlet (if supported): on(true) or off(false).	boolean
bankID <i>optional</i>	Index of the bank containing the outlet.	integer
name <i>optional</i>	The label for the asset associated with this tag, else the ID of the tag (if no asset is assigned).	string

MergedTagMsg

Title: Merged Tag message (<prefix>/<clientID>/MergedTag/<id>)

This is a simple 'all in one' topic that incorporates all the fields of the BaseTagMsg along with the distinctive fields of the other sensor type specific tag messages. When a tag is deleted, a message will be sent with just the 'id' attribute set.

Presently, PDU tags and subtags do NOT generate these messages, but all other tag types do.

Reported on topic '\<prefix\>/\<clientID\>/MergedTag/\<id\>'. V5 Content type is 'rfcode.MergedTag'.

Properties

Name	Description	Schema
id <i>required</i>	Unique ID of the tag	string
timestamp <i>optional</i>	Timestamp of most recent reported data, in UTC milliseconds.	integer (int64)
online <i>optional</i>	Indicates the online status of the tag. Online tags are true, while offline tags are false.	boolean
location <i>optional</i>	When detected, the ID of the best matching location for where the tag is currently being detected.	string
groupCode <i>optional</i>	The groupCode value of the tag group associated with the tag.	string
lowBatt <i>optional</i>	Indicates whether the tag has reported a low battery condition (true) or not (false).	boolean
lastUpdated <i>optional</i>	The timestamp (in UTC milliseconds) of the most recent update for this tag.	integer
msgLoss <i>optional</i>	The percentage of beacons estimated to not have been received from this tag. -1 = unknown.	number

<code>expLocs</code> <i>optional</i>	The list of zero or more IDs of the locations where this tag is expected to be found.	< string > array
<code>name</code> <i>optional</i>	The label for the asset associated with this tag, else the ID of the tag (if no asset is assigned).	String
<code>tempF</code> <i>optional</i>	Current temperature reported, in degrees F.	number
<code>tempC</code> <i>optional</i>	Current temperature reported, in degrees C.	Number
<code>humidity</code> <i>optional</i>	Current relative humidity reported, in percent RH.	number
<code>dewPointF</code> <i>optional</i>	Current dew point reported, in degrees F.	number
<code>dewPointC</code> <i>optional</i>	Current dew point reported, in degrees C.	Number
<code>doorOpen</code> <i>optional</i>	Current door state - open (true) or closed (false).	Boolean
<code>dryOpen</code> <i>optional</i>	Current dry contact switch state - open (true) or closed (false).	Boolean
<code>fluidDet</code> <i>optional</i>	Current fluid detection state - detected (wet) (true) or not detected (dry) (false).	boolean

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