



MQTT Topics
for ConnectBridge™ Wireless Gateway

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SUMMARY

This document outlines the available MQTT Topics that can be published and subscribed to for interacting with a CTC Gateway through an MQTT Broker.

The structure of the topics within this system follows a pattern that includes an optional custom user root configurable in the gateway UI, the gateway serial number, and the topic type.

The pattern of the topics can be seen here:

"{user-custom-root}/access360/{gateway-serial}/{topic}"

An example would be:

"customroot/access360/1000001/dyn/get"

ADDITIONAL INFORMATION

MQTT brokers enforce a property called `MaximumPacketSize`, which defines the maximum size allowed for a single packet (including headers and payload). When a gateway connects to the broker, it identifies this limit and stores it for the duration of the connection. Later, when the gateway wants to publish a message to a topic, such as sending sensor readings or responding to historical data requests, it first checks whether the payload exceeds this maximum size. If the payload is too large, the gateway breaks it into up to 10 smaller packets. Each of these sub-packets is assigned a shared MultiPart_ID, which identifies them as belonging to the same original message.

Then, in order, the gateway sends each of these sub-packets with the structure ("MultiPart_ID": int, "Data": str), where Data contains a fragment of the original message. On the receiving end, the client can detect packets with the same `MultiPart_ID` and reconstruct the original full message by appending the `Data` values in the correct order. This multipart behavior can occur on any topic if the message size exceeds the broker's limit, although in practice, it has primarily been observed on reading notifications and historical reading requests.

PUBLISH TOPICS

Please note: the format of *datetime* is a string with the pattern "yyyy-mm-dd hh:MM"

dyn/get		
Description	Payload	Response
<p>Gets records for requested sensors. Returns a list of all records with serial numbers provided in the payload.</p> <p>Payload Serials – List of sensor serial numbers you want data for</p> <p>Response Serial – Serial number of the sensor Connected – Connection status of Sensor to Gateway AccessPoint – The Gateway the sensor is connected to PartNum – Part number of the sensor ReadRate – Frequency of automatic reading ~ [{-59 to -1} (Minute), 0 (Disabled), {1 to 24} (Hour)] GMode – The dynamic range of the sensor ~ [+/-8g, +/-16g, +/-32g, +/-64g] FreqMode – Sampling rate of the sensor ~ [400, 800, 1600, 3200, 6400, 12800, 25600] Coupling – Gravitational acceleration is removed from a reading ReadPeriod – Length of reading in milliseconds Samples – Total number of samples in a reading ~ [1600, 3200, 6400, 12800, 25600] Fs – The actual sampling frequency of a reading Fmax – The fmax the reading is measured up to ~ [156.25, 312.5, 625, 1250, 2500, 5000, 10000] HwVer – Sensor hardware version FmVer – Sensor firmware version Machine – Machine group ID the sensor is organized in Early – Value of an early alert Crit – Value of a critical alert Nickname – The user specified name of the sensor Favorite – The user specified favorited status EarlyUnit – The unit that an early alert is measured in [RMS, Peak, Peak to Peak] CritUnit – The unit that a critical alert is measured in [RMS, Peak, Peak to Peak]</p>	<pre>{ "Serials": [int, ...] }</pre>	<pre>[{ "Serial": int, "Connected": bool, "AccessPoint": str, "PartNum": str, "ReadRate": int, "GMode": str, "FreqMode": int, "Coupling": bool, "ReadPeriod": int, "Samples": int, "Fs": int, "Fmax": float, "HwVer": str, "FmVer": str, "Machine": str, "Early": float, "Crit": float, "Nickname": str, "Favorite": bool, "EarlyUnit": str, "CritUnit": str, "VelocityMode": bool }, ...]</pre>

dyn/get/connected

Description	Payload	Response
<p>Gets records for all currently connected sensors. Returns a list of all records that have an active connection.</p> <p>Response</p> <p>Serial – Serial number of the sensor</p> <p>Connected – Connection status of Sensor to Gateway</p> <p>AccessPoint – The Gateway the sensor is connected to</p> <p>PartNum – Part number of the sensor</p> <p>ReadRate – Frequency of automatic reading ~ [-59 to -1} (Minute), 0 (Disabled), {1 to 24} (Hour)]</p> <p>GMode – The dynamic range of the sensor ~ [+/-8g, +/-16g, +/-32g, +/-64g]</p> <p>FreqMode – Sampling rate of the sensor ~ [400, 800, 1600, 3200, 6400, 12800, 25600]</p> <p>Coupling – Gravitational acceleration is removed from a reading</p> <p>ReadPeriod - Length of reading in milliseconds</p> <p>Samples – Total number of samples in a reading ~ [1600, 3200, 6400, 12800, 25600]</p> <p>Fs – The actual sampling frequency of a reading</p> <p>Fmax – The fmax the reading is measured up to ~ [156.25, 312.5, 625, 1250, 2500, 5000, 10000]</p> <p>HwVer – Sensor hardware version</p> <p>FmVer – Sensor firmware version</p> <p>Machine – Machine group ID the sensor is organized in</p> <p>Early – Value of an early alert</p> <p>Crit – Value of a critical alert</p> <p>Nickname – The user specified name of the sensor</p> <p>Favorite – The user specified favorited status</p> <p>EarlyUnit – The unit that an early alert is measured in [RMS, Peak, Peak to Peak]</p> <p>CritUnit – The unit that a critical alert is measured in [RMS, Peak, Peak to Peak]</p>	{ }	<pre>[{ "Serial": int, "Connected": bool, "AccessPoint": str, "PartNum": str, "ReadRate": int, "GMode": str, "FreqMode": int, "Coupling": bool, "ReadPeriod": int, "Samples": int, "Fs": int, "Fmax": float, "HwVer": str, "FmVer": str, "Machine": str, "Early": float, "Crit": float, "Nickname": str, "Favorite": bool, "EarlyUnit": str, "CritUnit": str, "VelocityMode": bool }, ...]</pre>

dyn/vib/get

Description	Payload	Response
<p>Gets vibration records of the given serial numbers between a start and end date, capped with a maximum value. Sorted by most recent.</p> <p>Payload</p> <p>Serials – List of sensor serial numbers you want data for</p> <p>Start – The start of the time frame to search in</p> <p>End – The end of the time frame to search in</p> <p>Max – The maximum number of records returned</p> <p>Response</p> <p>ID – The unique ID of the reading</p> <p>Serial – The serial number of the sensor that took the reading</p> <p>Time – The date and time the reading occurred</p> <p>Xpk – The peak value of the x-axis</p> <p>Xpp – The peak-to-peak value of the x-axis</p> <p>Xrms – The RMS value of the x-axis</p> <p>Ypk – The peak value of the y-axis</p> <p>Ypp – The peak-to-peak value of the y-axis</p> <p>Yrms – The RMS value of the y-axis</p> <p>Zpk – The peak value of the z-axis</p> <p>Zpp – The peak-to-peak value of the z-axis</p> <p>Zrms – The RMS value of the z-axis</p> <p>X – A list of the raw values on the x-axis</p> <p>Y – A list of the raw values on the y-axis</p> <p>Z – A list of the raw values on the z-axis</p> <p>Plot – The correlating time of axis data</p> <p>ReadPeriod – Total elapsed time of the reading</p> <p>Samples – Total samples in the reading</p> <p>Fs – The actual sampling frequency of the reading</p>	<pre>{ "Serials": [int, ...], "Start": datetime, "End": datetime, "Max": int }</pre>	<pre>[{ "ID": int, "Serial": int, "Time": datetime, "Xpk": float, "Xpp": float, "Xrms": float, "Ypk": float, "Ypp": float, "Yrms": float, "Zpk": float, "Zpp": float, "Zrms": float, "X": [float, ...], "Y": [float, ...], "Z": [float, ...], "Plot": [float, ...], "ReadPeriod": int, "Samples": int, "Fs": int }, ...]</pre>

dyn/batt/get

Description	Payload	Response
<p>Gets battery records of the given serial numbers between a start and end date, capped with a maximum value. Sorted by most recent.</p> <p>Payload</p> <p>Serials – List of sensor serial numbers you want data for</p> <p>Start – The start of the time frame to search in</p> <p>End – The end of the time frame to search in</p> <p>Max – The maximum number of records returned</p> <p>Response</p> <p>ID – The unique ID of the reading</p> <p>Serial – The serial number of the sensor that took the reading</p> <p>Time – The date and time the reading occurred</p> <p>Batt – The battery capacity as a percentage</p>	<pre>{ "Serials": [int, ...], "Start": datetime, "End": datetime, "Max": int }</pre>	<pre>[{ "ID": int, "Serial": int, "Time": datetime, "Batt": int }, ...]</pre>

dyn/temp/get

Description	Payload	Response
<p>Gets temperature records of the given serial numbers between a start and end date, capped with a maximum value. Sorted by most recent.</p> <p>Payload</p> <p>Serials – List of sensor serial numbers you want data for</p> <p>Start – The start of the time frame to search in</p> <p>End – The end of the time frame to search in</p> <p>Max – The maximum number of records returned</p> <p>Response</p> <p>ID – The unique ID of the reading</p> <p>Serial – The serial number of the sensor that took the reading</p> <p>Time – The date and time the reading occurred</p> <p>Temp – The temperature in Celsius</p>	<pre>{ "Serials": [int, ...], "Start": datetime, "End": datetime, "Max": int }</pre>	<pre>[{ "ID": int, "Serial": int, "Time": datetime, "Temp": int }, ...]</pre>

dyn/config

Description	Payload	Response
<p>Sets the sensor of the given serial with the provided configuration options. Only options that are changing are needed in the payload. Return the new configuration of the sensor.</p> <p>Payload</p> <p>Serial – The serial number of the sensor you want to change the configuration of</p> <p>FreqMode – Sampling rate of the sensor ~ [400, 800, 1600, 3200, 6400, 12800, 25600]</p> <p>Coupling – Gravitational acceleration is removed from a reading</p> <p>Samples – Total number of samples in a reading ~ [1600, 3200, 6400, 12800, 25600]</p> <p>GMode – The dynamic range of the sensor ~ [±-8g, ±-16g, ±-32g, ±-64g]</p> <p>ReadInterval – Frequency of automatic reading ~ [{-59 to -1} (Minute), 0 (Disabled), {1 to 24} (Hour)]</p> <p>Response</p> <p>Serial – Serial number of the sensor</p> <p>Connected – Connection status of Sensor to Gateway</p> <p>AccessPoint – The Gateway the sensor is connected to</p> <p>PartNum – Part number of the sensor</p> <p>ReadRate – Frequency of automatic reading ~ [{-59 to -1} (Minute), 0 (Disabled), {1 to 24} (Hour)]</p> <p>GMode – The dynamic range of the sensor ~ [±-8g, ±-16g, ±-32g, ±-64g]</p> <p>FreqMode – Sampling rate of the sensor ~ [400, 800, 1600, 3200, 6400, 12800, 25600]</p> <p>Coupling – Gravitational acceleration is removed from a reading</p> <p>ReadPeriod – Length of reading in milliseconds</p> <p>Samples – Total number of samples in a reading ~ [1600, 3200, 6400, 12800, 25600]</p> <p>Fs – The actual sampling frequency of a reading</p> <p>Fmax – The fmax the reading is measured up to ~ [156.25, 312.5, 625, 1250, 2500, 5000, 10000]</p> <p>HwVer – Sensor hardware version</p> <p>FmVer – Sensor firmware version</p> <p>Machine – Machine group ID the sensor is organized in</p> <p>Early – Value of an early alert</p> <p>Crit – Value of a critical alert</p> <p>Nickname – The user specified name of the sensor</p> <p>Favorite – The user specified favorited status</p> <p>EarlyUnit – The unit that an early alert is measured in [RMS, Peak, Peak to Peak]</p> <p>CritUnit – The unit that a critical alert is measured in [RMS, Peak, Peak to Peak]</p>	<pre>{ "Serial": int, "FreqMode": int, "Coupling": bool, "Samples": int, "GMode": str, "ReadInterval": int }</pre>	<pre>{ "Serial": int, "Connected": bool, "AccessPoint": str, "PartNumber": str, "ReadRate": int, "GMode": str, "FreqMode": int, "Coupling": bool, "ReadPeriod": int, "Samples": int, "Fs": int, "Fmax": float, "HwVer": str, "FmVer": str, "Machine": str, "Early": float, "Crit": float, "Nickname": str, "Favorite": bool, "EarlyUnit": str, "CritUnit": str, "VelocityMode": bool }</pre>

dyn/disconnect

Description	Payload	Response
<p>Disconnects the given sensor from the gateway. When the sensor disconnects, it should notify the event on dyn/notify topic.</p> <p>Payload Serial – The serial number of the sensor you want to disconnect</p>	<pre>{ "Serial": int }</pre>	<p>NA</p>

dyn/vib/trigger

Description	Payload	Response
<p>Triggers a vibration reading on the given sensor. Returns nothing if successful, but returns an error message if not. When the reading starts, a notification will be received on the dyn/reading/notify topic.</p> <p>Payload Serial – The serial number of the sensor to trigger a vibration reading on</p> <p>Response Attempt – The topic being published to during the error Error – The error message of the error</p>	<pre>{ "Serial": int }</pre>	<pre>{ "Attempt": str, "Error": str }</pre>

dyn/delete

Description	Payload	Response
<p>Deletes the stored sensor data on the gateway. Can delete everything or just the readings.</p> <p>Payload</p> <p>Serial – The serial number of the sensor you want to delete data of</p> <p>DataOnly – Toggle for deleting only readings</p>	<pre>{ "Serial": int, "DataOnly": bool }</pre>	NA

dyn/fft/get

Description	Payload	Response
<p>Gets the FFT data of the provided reading ID. Returns data to plot an FFT graph.</p> <p>Payload</p> <p>ID – The unique reading ID to calculate the FFT for</p> <p>Response</p> <p>ID – The unique reading ID the FFT was calculated from</p> <p>X – The RMS values of the x-axis</p> <p>Y – The RMS values of the y-axis</p> <p>Z – The RMS values of the z-axis</p> <p>Plot – The correlating frequency of axis data</p>	<pre>{ "ID": int }</pre>	<pre>[{ "ID": int, "X": float, "Y": float, "Z": float, "Plot": float }, ...]</pre>

dyn/temp/trigger

Description	Payload	Response
<p>Triggers a temperature reading on the given sensor. Returns nothing if successful, but returns an error message if not. When the reading finishes, a notification will be received on the dyn/temp/notify topic.</p> <p>Payload Serial – The serial number of the sensor to trigger a temperature reading on</p> <p>Response Attempt – The topic being published to during the error Error – The error message of the error</p>	<pre>{ "Serial": int }</pre>	<pre>{ "Attempt": str, "Error": str }</pre>

dyn/batt/trigger

Description	Payload	Response
<p>Triggers a battery reading on the given sensor. Returns nothing if successful, but returns an error message if not. When the reading starts, a notification will be received on the dyn/batt/notify topic.</p> <p>Payload Serial – The serial number of the sensor to trigger a battery reading on</p> <p>Response Attempt – The topic being published to during the error Error – The error message of the error</p>	<pre>{ "Serial": int }</pre>	<pre>{ "Attempt": str, "Error": str }</pre>

proc/get

Description	Payload	Response
<p>Gets records for requested process control sensors. Returns a list of all records with serial numbers provided in the payload.</p> <p>Payload</p> <p>Serials – List of sensor serial numbers you want data for</p> <p>Response</p> <p>Serial – Serial number of the sensor</p> <p>AccessPoint – The Gateway the sensor is transmitting to</p> <p>PartNum – Part number of the sensor</p> <p>ReadRate – Frequency of automatic reading ~ [0 – 24] (Hour)</p> <p>HwVer – Sensor hardware version</p> <p>FmVer – Sensor firmware version</p> <p>Machine – Machine group ID the sensor is organized in</p> <p>Early – Value of an early alert</p> <p>Crit – Value of a critical alert</p> <p>Nickname – The user-specified name of the sensor</p> <p>Favorite – The user specified favorited status</p> <p>LastCheckIn – The last time a message was received from this sensor</p> <p>EarlyUnit – The unit that an early alert is measured in [RMS, Peak, Peak to Peak]</p> <p>CritUnit – The unit that a critical alert is measured in [RMS, Peak, Peak to Peak]</p> <p>GMode – The dynamic range of the sensor ~ [+/-8g, +/-16g, +/-32g, +/-64g]</p> <p>FreqMode – The sensor frequency range [2Hz – kHz, 2Hz - 2.5kHz, 2Hz - 5kHz, 10Hz - 1kHz, 1kHz - 5kHz]</p>	<pre>{ "Serials": [int, ...] }</pre>	<pre>[{ "Serial": int, "OpMode": str, "AccessPoint": int, "PartNum": str, "ReadRate": int, "HwVer": str, "FmVer": str, "Machine": str, "Early": float, "Crit": float, "Nickname": str, "Favorite": bool, "LastCheckIn": datetime, "EarlyUnit": str, "CritUnit": str, "GMode": str, "FreqMode": str }, ...]</pre>

proc/config

Description	Payload	Response
<p>Set the configuration of the process control sensor. Only changing settings are required in the payload. Return the new sensor configuration.</p> <p>Payload</p> <p>Serial – Serial number of the sensor</p> <p>Nickname – The user-specified name of the sensor</p> <p>Favorite – The user specified favorited status</p> <p>Machine – Machine group ID the sensor is organized in</p> <p>Early – Value of an early alert</p> <p>EarlyUnit – The unit that an early alert is measured in [RMS, Peak, Peak to Peak]</p> <p>Crit – Value of a critical alert</p> <p>CritUnit – The unit that a critical alert is measured in [RMS, Peak, Peak to Peak]</p> <p>Response</p> <p>Serial – Serial number of the sensor</p> <p>AccessPoint – The Gateway the sensor is transmitting to</p> <p>PartNum – Part number of the sensor</p> <p>ReadRate – Frequency of automatic reading ~ [0 – 24] (Hour)</p> <p>HwVer – Sensor hardware version</p> <p>FmVer – Sensor firmware version</p> <p>Machine – Machine group ID the sensor is organized in</p> <p>Early – Value of an early alert</p> <p>Crit – Value of a critical alert</p> <p>Nickname – The user-specified name of the sensor</p> <p>Favorite – The user specified favorited status</p> <p>LastCheckIn – The last time a message was received from this sensor</p> <p>EarlyUnit – The unit that an early alert is measured in [RMS, Peak, Peak to Peak]</p> <p>CritUnit – The unit that a critical alert is measured in [RMS, Peak, Peak to Peak]</p> <p>GMode – The dynamic range of the sensor ~ [+/-8g, +/-16g, +/-32g, +/-64g]</p> <p>FreqMode – The sensor frequency range [2Hz – kHz, 2Hz - 2.5kHz, 2Hz - 5kHz, 10Hz - 1kHz, 1kHz - 5kHz]</p>	<pre>{ "Serial": int, "Nickname": str, "Favorite": bool, "Machine": str, "Early": float, "EarlyUnit": str, "Crit": float, "CritUnit": str }</pre>	<pre>{ "Serial": int, "OpMode": str, "AccessPoint": int, "PartNum": str, "ReadRate": int, "HwVer": str, "FmVer": str, "Machine": str, "Early": float, "Crit": float, "Nickname": str, "Favorite": bool, "LastCheckIn": datetime, "EarlyUnit": str, "CritUnit": str, "GMode": str, "FreqMode": str }</pre>

proc/reading/get

Description	Payload	Response
<p>Gets records of the given serial numbers between a start and end date, capped with a maximum value. Sorted by most recent.</p> <p>Payload</p> <p>Serials – List of sensor serial numbers you want data for</p> <p>Start – The start of the time frame to search in</p> <p>End – The end of the time frame to search in</p> <p>Max – The maximum number of records returned</p> <p>Response</p> <p>Serial – The serial number of the sensor that took the reading</p> <p>Time – The date and time the reading occurred</p> <p>Xpk – The peak value of the x-axis</p> <p>Xpp – The peak-to-peak value of the x-axis</p> <p>Xrms – The RMS value of the x-axis</p> <p>Ypk – The peak value of the y-axis</p> <p>Ypp – The peak-to-peak value of the y-axis</p> <p>Yrms – The RMS value of the y-axis</p> <p>Zpk – The peak value of the z-axis</p> <p>Zpp – The peak-to-peak value of the z-axis</p> <p>Zrms – The RMS value of the z-axis</p> <p>Temp – The temperature of the reading</p> <p>Batt – The battery level of the sensor at the time of the reading in percentage</p>	<pre>{ "Serials": [int, ...], "Start": datetime, "End": datetime, "Max": int }</pre>	<pre>[{ "Serial": int, "Time": datetime, "Xrms": float, "Xpk": float, "Xpp": float, "Yrms": float, "Ypk": float, "Ypp": float, "Zrms": float, "Zpk": float, "Zpp": float, "Temp": int, "Batt": int, }, ...]</pre>

proc/delete

Description	Payload	Response
<p>Deletes the stored sensor data on the gateway. Can delete everything or just the readings.</p> <p>Payload</p> <p>Serial – The serial number of the sensor you want to delete data of</p> <p>DataOnly – Toggle for deleting only readings</p>	<pre>{ "Serial": int, "DataOnly": bool }</pre>	<p>NA</p>

ap/get

Description	Payload	Response
<p>Gets specified gateway information.</p> <p>Payload</p> <p>Serial – The serial number of the gateway</p> <p>Response</p> <p>Serial – The serial number of the gateway</p> <p>Connected – Connection status of gateway to a primary gateway</p> <p>Firmware – The firmware version of the gateway</p> <p>Software – The software version of the gateway</p> <p>Nickname – The user specified nickname of the gateway</p> <p>Storage – The percentage amount of SD card storage used on the gateway</p>	<pre>{ "Serial": int }</pre>	<pre>[{ "Serial": int, "Connected": bool, "Firmware": str, "Hardware": str, "Software": str, "Nickname": str "Storage": int }]</pre>

alert/get

Description	Payload	Response
<p>Gets alerts of the given sensor between a date range with a maximum number of returned records.</p> <p>Payload</p> <p>Serials – The serial numbers of sensors to look for alerts for</p> <p>Start – The start of the date range to search in</p> <p>End – The end of the date range to search in</p> <p>Max – The maximum returned alert records</p> <p>Response</p> <p>ID – The unique ID of the alert</p> <p>Severity – The severity level of the alert higher is worse ~ [0-2]</p> <p>Time – The time the alert occurred</p> <p>Serial – The serial number of the device that caused the alert</p> <p>Type – The type of device that caused the alert</p> <p>Text – The message of the alert</p>	<pre>{ "Serials": [int, ...], "Start": datetime, "End": datetime, "Max": int }</pre>	<pre>[{ "ID": int, "Severity": int, "Time": datetime, "Serial": int, "Type": str, "Text": str }, ...]</pre>

reboot/all		
Description	Payload	Response
Reboots the gateway.	{ }	NA

reboot/wireless		
Description	Payload	Response
Reboots the wireless connectivity layer of the gateway. Useful when experiencing connectivity issues.	{ }	NA

SUBSCRIBE TOPICS

dyn/notify	
Description	Payload
<p>Notifies when a dynamic sensor has connected or disconnected from the system. To identify if it's a connection or disconnection event, use the "Connected" value in the payload.</p> <p>Payload</p> <p>Serial – Serial number of the sensor</p> <p>Connected – Connection status of Sensor to Gateway</p> <p>AccessPoint – The Gateway the sensor is connected to</p> <p>PartNum – Part number of the sensor</p> <p>ReadRate – Frequency of automatic reading ~ [-59 to -1} (Minute), 0 (Disabled), {1 to 24} (Hour)]</p> <p>GMode – The dynamic range of the sensor ~ [+/-8g, +/-16g, +/-32g, +/-64g]</p> <p>FreqMode – Sampling rate of the sensor ~ [400, 800, 1600, 3200, 6400, 12800, 25600]</p> <p>Coupling – Gravitational acceleration is removed from a reading</p> <p>ReadPeriod – Length of reading in milliseconds</p> <p>Samples – Total number of samples in a reading ~ [1600, 3200, 6400, 12800, 25600]</p> <p>Fs – The actual sampling frequency of a reading</p> <p>Fmax – The fmax the reading is measured up to ~ [156.25, 312.5, 625, 1250, 2500, 5000, 10000]</p> <p>HwVer – Sensor hardware version</p> <p>FmVer – Sensor firmware version</p> <p>Machine – Machine group ID the sensor is organized in</p> <p>Early – Value of an early alert</p> <p>Crit – Value of a critical alert</p> <p>Nickname – The user specified name of the sensor</p> <p>Favorite – The user specified favorited status</p> <p>EarlyUnit – The unit that an early alert is measured in [RMS, Peak, Peak to Peak]</p> <p>CritUnit – The unit that a critical alert is measured in [RMS, Peak, Peak to Peak]</p>	<pre>{ "Serial": int, "Connected": bool, "AccessPoint": str, "PartNum": str, "ReadRate": int, "GMode": str, "FreqMode": int, "Coupling": bool, "ReadPeriod": int, "Samples": int, "Fs": int, "Fmax": float, "HwVer": str, "FmVer": str, "Machine": str, "Early": float, "Crit": float, "Nickname": str, "Favorite": bool, "EarlyUnit": str, "CritUnit": str, "VelocityMode": bool }</pre>

dyn/reading/notify	
Description	Payload
<p>Notifies when a dynamic sensor tries to start a vibration reading.</p> <p>Payload</p> <p>Serial – The serial number of the sensor that attempted to start a reading</p> <p>Success – The success status of the reading starting</p>	<pre>{ "Serial": int, "Success": bool }</pre>

dyn/vib/notify

Description	Payload
<p>Notifies when a new dynamic sensor vibration reading has occurred.</p> <p>Payload</p> <p>ID – The unique ID of the reading</p> <p>Serial – The serial number of the sensor that took the reading</p> <p>Time – The date and time the reading occurred</p> <p>Xpk – The peak value of the x-axis</p> <p>Xpp – The peak-to-peak value of the x-axis</p> <p>Xrms – The RMS value of the x-axis</p> <p>Ypk – The peak value of the y-axis</p> <p>Ypp – The peak-to-peak value of the y-axis</p> <p>Yrms – The RMS value of the y-axis</p> <p>Zpk – The peak value of the z-axis</p> <p>Zpp – The peak-to-peak value of the z-axis</p> <p>Zrms – The RMS value of the z-axis</p> <p>X – A list of the raw values on the x-axis</p> <p>Y – A list of the raw values on the y-axis</p> <p>Z – A list of the raw values on the z-axis</p> <p>Plot – The correlating time of axis data</p> <p>ReadPeriod – Total elapsed time of the reading</p> <p>Samples – Total samples in the reading</p> <p>Fs – The actual sampling frequency of the reading</p>	<pre>{ "ID": int, "Serial": int, "Time": datetime, "Xpk": float, "Xpp": float, "Xrms": float, "Ypk": float, "Ypp": float, "Yrms": float, "Zpk": float, "Zpp": float, "Zrms": float, "X": [float, ...], "Y": [float, ...], "Z": [float, ...], "Plot": [float, ...], "ReadPoint": int, "Samples": int, "Fs": int }</pre>

dyn/temp/notify

Description	Payload
<p>Notifies when a new dynamic sensor vibration reading has occurred.</p> <p>Payload</p> <p>ID – The unique ID of the reading</p> <p>Serial – The serial number of the sensor that took the reading</p> <p>Time – The date and time the reading occurred</p> <p>Temp – The temperature capacity as a percentage</p>	<pre>{ "ID": int, "Serial": int, "Time": datetime, "Temp": int }</pre>

dyn/batt/notify

Description	Payload
<p>Notifies when a new dynamic sensor battery reading has occurred.</p> <p>Payload</p> <p>ID – The unique ID of the reading</p> <p>Serial – The serial number of the sensor that took the reading</p> <p>Time – The date and time the reading occurred</p> <p>Batt – The battery capacity as a percentage</p>	<pre>{ "ID": int, "Serial": int, "Time": datetime, "Batt": int }</pre>

dyn/config/notify

Description	Payload
<p>Notifies when a dynamic sensor's configuration has changed.</p> <p>Payload</p> <p>Serial – Serial number of the sensor</p> <p>Connected – Connection status of Sensor to Gateway</p> <p>AccessPoint – The Gateway the sensor is connected to</p> <p>PartNum – Part number of the sensor</p> <p>ReadRate – Frequency of automatic reading ~ [{-59 to -1} (Minute), 0 (Disabled), {1 to 24} (Hour)]</p> <p>GMode – The dynamic range of the sensor ~ [+/-8g, +/-16g, +/-32g, +/-64g]</p> <p>FreqMode – Sampling rate of the sensor ~ [400, 800, 1600, 3200, 6400, 12800, 25600]</p> <p>Coupling – Gravitational acceleration is removed from a reading</p> <p>ReadPeriod – Length of reading in milliseconds</p> <p>Samples – Total number of samples in a reading ~ [1600, 3200, 6400, 12800, 25600]</p> <p>Fs – The actual sampling frequency of a reading</p> <p>Fmax – The fmax the reading is measured up to ~ [156.25, 312.5, 625, 1250, 2500, 5000, 10000]</p> <p>HwVer – Sensor hardware version</p> <p>FmVer – Sensor firmware version</p> <p>Machine – Machine group ID the sensor is organized in</p> <p>Early – Value of an early alert</p> <p>Crit – Value of a critical alert</p> <p>Nickname – The user specified name of the sensor</p> <p>Favorite – The user specified favorited status</p> <p>EarlyUnit – The unit that an early alert is measured in [RMS, Peak, Peak to Peak]</p> <p>CritUnit – The unit that a critical alert is measured in [RMS, Peak, Peak to Peak]</p>	<pre>{ "Serial": int, "Connected": bool, "AccessPoint": str, "PartNum": str, "ReadRate": int, "GMode": str, "FreqMode": int, "Coupling": bool, "ReadPeriod": int, "Samples": int, "Fs": int, "Fmax": float, "HwVer": str, "FmVer": str, "Machine": str, "Early": float, "Crit": float, "Nickname": str, "Favorite": bool, "EarlyUnit": str, "CritUnit": str, "VelocityMode": bool }</pre>

proc/vib/notify/lite

Description	Payload
<p>Notifies when a new dynamic sensor vibration reading has occurred. Contains only overall data.</p> <p>Payload</p> <p>ID – The unique ID of the reading</p> <p>Serial – The serial number of the sensor that took the reading</p> <p>Time – The date and time the reading occurred</p> <p>Xpk – The peak value of the x-axis</p> <p>Xpp – The peak-to-peak value of the x-axis</p> <p>Xrms – The RMS value of the x-axis</p> <p>Ypk – The peak value of the y-axis</p> <p>Ypp – The peak-to-peak value of the y-axis</p> <p>Yrms – The RMS value of the y-axis</p> <p>Zpk – The peak value of the z-axis</p> <p>Zpp – The peak-to-peak value of the z-axis</p> <p>Zrms – The RMS value of the z-axis</p>	<pre>{ "ID": int, "Serial": int, "Time": datetime, "Xrms": float, "Xpk": float, "Xpp": float, "Yrms": float, "Ypk": float, "Ypp": float, "Zrms": float, "Zpk": float, "Zpp": float }</pre>

proc/reading/notify

Description	Payload
<p>Notifies when a new process control sensor reading has occurred.</p> <p>Payload</p> <p>Serial – The serial number of the sensor that took the reading</p> <p>Time – The date and time the reading occurred</p> <p>Xpk – The peak value of the x-axis</p> <p>Xpp – The peak-to-peak value of the x-axis</p> <p>Xrms – The RMS value of the x-axis</p> <p>Ypk – The peak value of the y-axis</p> <p>Ypp – The peak-to-peak value of the y-axis</p> <p>Yrms – The RMS value of the y-axis</p> <p>Zpk – The peak value of the z-axis</p> <p>Zpp – The peak-to-peak value of the z-axis</p> <p>Zrms – The RMS value of the z-axis</p> <p>Temp – The temperature of the reading</p> <p>Batt – The battery level of the sensor at the time of the reading in percentage</p>	<pre>{ "Serial": int, "Time": datetime, "Xrms": float, "Xpk": float, "Xpp": float, "Yrms": float, "Ypk": float, "Ypp": float, "Zrms": float, "Zpk": float, "Zpp": float, "Temp": int, "Batt": int }</pre>

proc/checkin/notify	
Description	Payload
<p>Notifies when a process control sensor has sent a transmission to a gateway, but no new reading occurred.</p> <p>Payload Serial – The serial number of the sensor that checked in Time – The date and time the sensor checked in</p>	<pre>{ "Serial": int, "Time": datetime }</pre>

ap/notify	
Description	Payload
<p>Notifies when a new gateway has been connected or disconnected from the system.</p> <p>Payload Serial – The serial number of the gateway that connected/disconnected Connected – The connection status of the gateway to the system Firmware – The firmware of the gateway Software – The software version of the gateway Nickname – The user-defined nickname of the gateway</p>	<pre>{ "Serial": int, "Connected": bool, "Firmware": str, "Hardware": str, "Software": str, "Nickname": str }</pre>

error/notify	
Description	Payload
<p>Notifies when a new error occurs.</p> <p>Payload Attempt – The topic or WebSocket command being executed when the error occurred Error – The error message of the error</p>	<pre>{ "Attempt": str, "Error": str }</pre>

status/notify	
Description	Payload
<p>Notifies when a new status event occurs.</p> <p>Payload Status – The status message of the event</p>	<pre>{ "Status": str }</pre>

will	
Description	Payload
<p>Notifies when the connection to a Gateway is lost.</p> <p>Payload</p> <p>Message – The message of the Last Will</p>	<pre>{ "Message": "str or JSON" }</pre>