

DROP MQTT API

Revised 5/13/2024

Note: Throughout this document, the text '{HUB_ID}' represents the unique DROP Hub ID, and '{DEVICE_ID}' represents the ID associated with the device. Substitute the actual IDs of the DROP hub and device in use.

Use the DROP Connect app to connect the DROP hub to an MQTT broker. Navigate to the System > Advanced page and tap 'Configure MQTT'. Enter the IP address, port number and credentials for the MQTT broker. Note that MQTT over SSL is currently not supported.

Discovery Data

Upon connection to the MQTT broker or any time the DROP device list changes, the DROP hub will publish a discovery payload for each DROP device on the discovery MQTT topic '**drop_connect/discovery/{HUB_ID}/{DEVICE_ID}**', where HUB_ID is the unique ID of the DROP hub (e.g. DROP-2_AA9875) and the DEVICE_ID is a static ID number unique to that device. Note that the DEVICE_ID for the hub will always be 255, and all other devices sharing the same hub ID belong to that hub.

The published payload is a JSON fragment containing the following values:

JSON key	Description
devType	Device type code.
devDesc	Device description. This is effectively the default name assigned to a device.
name	Custom device name assigned to the device by the user.

Device type code values:

Device Type Code	Device Description
hub	Hub
soft	Softener
filt	Backwashing Filter Aeration Filter DROPkick Filter Cartridge Filter
salt	Salt Sensor
pv	Protection Valve
pc	Pump Controller
leak	Leak Detector
ro	Reverse Osmosis Filter
alrt	Alert

Discovery examples

drop_connect/discovery/DROP-2_AA9875/255	{"devDesc":"Hub","devType":"hub","name":"Hub DROP-2_AA9875"}
drop_connect/discovery/DROP-2_AA9875/0	{"devDesc":"Softener","devType":"soft","name":"Softener"}
drop_connect/discovery/DROP-2_AA9875/4	{"devDesc":"DROPkick Filter","devType":"filt","name":"DROPkick Filter"}
drop_connect/discovery/DROP-2_AA9875/8	{"devDesc":"Salt Sensor","devType":"salt","name":"Salt Sensor 1"}
drop_connect/discovery/DROP-2_AA9875/78	{"devDesc":"Protection Valve","devType":"pv","name":"Protection Valve"}
drop_connect/discovery/DROP-2_AA9875/83	{"devDesc":"Pump Controller","devType":"pc","name":"Pump Controller"}
drop_connect/discovery/DROP-2_AA9875/20	{"devDesc":"Leak Detector","devType":"leak","name":"Leak Detector 1"}
drop_connect/discovery/DROP-2_AA9875/95	{"devDesc":"Reverse Osmosis Filter","devType":"ro","name":"Reverse Osmosis Filter"}
drop_connect/discovery/DROP-2_AA9875/99	{"devDesc":"Alert","devType":"alrt","name":"Alert"}

Telemetry Data

Whenever the API data for a DROP device changes, a new JSON fragment is published to the data topic `'drop_connect/{HUB_ID}/data/{DEVICE_ID}'`. Note that the MQTT 'retain' flag is used to ensure that a listening device connecting to the MQTT broker will immediately have current data.

Some devices have settable elements; to change those elements, publish a JSON fragment containing only the changed value to the command topic `'drop_connect/{HUB_ID}/cmd/{DEVICE_ID}'`.

Hub

JSON Key	Description	Data Type	Units
curFlow	Current water flow rate	float	GPM
peakFlow	Peak water flow rate today	float	GPM
usedToday	Water used today	float	GAL
avgUsed	Average water used over last 30 days	int	GAL
psi	Current system pressure	float or "null"	PSI ("null" if no devices capable of reading pressure are installed)
psiLow	Low system pressure today	int or "null"	PSI
psiHigh	High system pressure today	int or "null"	PSI

water	Water on/off (settable)	bool	1=ON, 0=OFF
bypass	Bypass on/off (settable)	bool	1=ON, 0=OFF
pMode	Protect Mode setting (settable)	enum	['home', 'away', 'schedule']
battery	Battery percentage remaining	int	Percent
notif	Unread notification	bool	1=pending notification, 0=no new notification
leak	Leak detected (system-wide)	bool	1=leak detected, 0=no leak detected

Example:

```
{"curFlow":0,"peakFlow":0,"usedToday":0,"avgUsed":5,"psi":72.1,"psiLow":71,"psiHigh":72,"water":1,"bypass":0,"pMode":"home","battery":0,"notif":0,"leak":0}
```

To change the water state, publish (e.g.) {"water":1} to the command topic.

To change the bypass state, publish (e.g.) {"bypass":0} to the command topic.

To change the Protect Mode setting, publish (e.g.) {"pMode":"home"} to the command topic.

Softener

JSON Key	Description	Data Type	Units
curFlow	Current water flow rate	float	GPM
bypass	Bypass on/off (settable)	bool	1=ON, 0=OFF
battery	Battery percentage remaining	int	Percent
capacity	Capacity remaining	float	GAL
resInUse	Reserve capacity in use	bool	1=reserve capacity in use, 0=normal
psi	Current system pressure	float or "null"	PSI ("null" if no pressure transducer is installed)

Example:

```
{"curFlow":0,"bypass":0,"battery":0,"capacity":942.48,"resInUse":0,"psi":null}
```

To change the bypass state, publish (e.g.) {"bypass":0} to the command topic.

Filter

JSON Key	Description	Data Type	Units
curFlow	Current water flow rate	float	GPM
bypass	Bypass on/off (settable)	bool	1=ON, 0=OFF
battery	Battery percentage remaining	int	Percent

psi	Current system pressure	float or "null"	PSI ("null" if no pressure transducer is installed)
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Example:

```
{"curFlow":0,"bypass":0,"battery":0,"psi":null}
```

To change the bypass state, publish (e.g.) {"bypass":0} to the command topic.

Salt Sensor

JSON Key	Description	Data Type	Units
salt	Salt level low	bool	1=Level Low, 0=Level normal

Example:

```
{"salt":0}
```

Protection Valve

JSON Key	Description	Data Type	Units
curFlow	Current water flow rate	float	GPM
water	Water on/off (settable)	bool	1=ON, 0=OFF
battery	Battery percentage remaining	int	Percent
psi	Current system pressure	float	PSI
leak	Leak detected	bool	1=leak detected, 0=no leak detected
temp	Temperature	float	°F

Example:

```
{"curFlow":0,"psi":70.7,"water":1,"battery":0,"leak":0,"temp":66.56}
```

To change the water state, publish (e.g.) {"water":1} to the command topic.

Pump Controller

JSON Key	Description	Data Type	Units
curFlow	Current water flow rate	float	GPM
psi	Current system pressure	float	PSI
pump	Pump status	bool	1=Pump running, 0=Pump off

leak	Leak detected	bool	1=leak detected, 0=no leak detected
temp	Temperature	float	°F

Example:

```
{"curFlow":0,"psi":72.1,"pump":0,"leak":0,"temp":73.58}
```

Leak Detector

JSON Key	Description	Data Type	Units
battery	Battery percentage remaining	int	Percent
leak	Leak detected	bool	1=leak detected, 0=no leak detected
temp	Temperature	float	°F

Example:

```
{"battery":100,"leak":0,"temp":69.62}
```

Reverse Osmosis Filter

JSON Key	Description	Data Type	Units
leak	Leak detected	bool	1=leak detected, 0=no leak detected
tdsIn	Inlet water TDS	int	PPM
tdsOut	Outlet water TDS	int	PPM
cart1	Cartridge #1 life remaining	int	Percent
cart2	Cartridge #2 life remaining	int	Percent
cart3	Cartridge #3 life remaining	int	Percent

Example:

```
{"leak":0,"tdsIn":152,"tdsOut":8,"cart1":51,"cart2":76,"cart3":51}
```

Alert

JSON Key	Description	Data Type	Units
battery	Battery percentage remaining	int	Percent
sens	Sensor input state	bool	1=sensor abnormal, 0=sensor normal
temp	Temperature	float	°F

pwrOff	12V power input lost	bool	1=power lost, 0=power normal
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Example:

```
{"battery":100,"sens":0,"temp":69.62,"pwrOff":0}
```