

REV 1.01
DATE 25 March 2026

POSSIBLE SENSOR ISSUE DETECTION WITH MAINTENANCE CASES CREATION

UNIFY TRAINING GUIDE

Customer Use

 ANOVA



PROBLEM

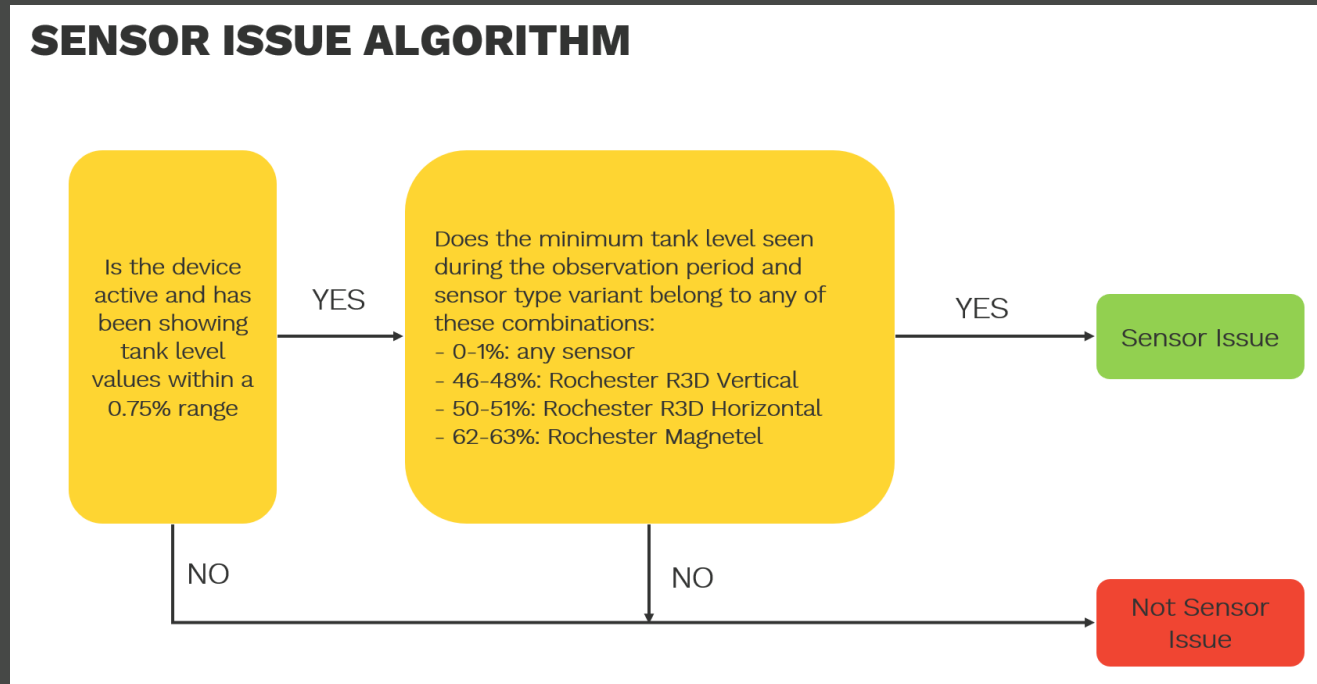
During normal operation, a device may report a consistent tank level over time. This value may be accurate if there is genuinely no-usage, but it may also indicate a potential malfunction. For example, certain device and sensor types report a consistent value of 50% when the sensor is unplugged from the device or dial. Because Unify does not currently flag this condition, users have no reliable way to distinguish potential sensor malfunctions from genuine no-usage, leading to delayed detection and increased run-out risk.

SOLUTION – HOW ARE SENSOR ISSUES DETECTED?

The sensor issue detection model looks at the last 7 days of level data and flags changes of less or equal than 0.75%. This model does not account for seasonality, unlike the Stuck Gauge model. The following use cases are monitored by sensor type:

- Level constant at 0% - Any sensor
- Level constant at 48% - Rochester R3D Vertical variants
- Level constant at 50% - Rochester R3D Horizontal variants
- Level constant at 62% - Magnetel variants

At a high level, the algorithm to identify possible sensor issues works as follows:

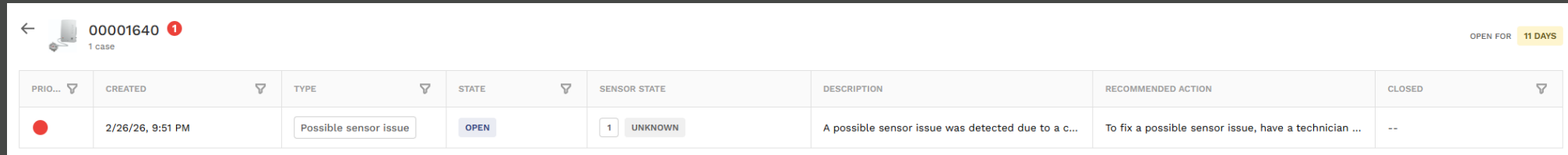


OUTCOME

Possible sensor malfunctions are now detected earlier and more consistently by monitoring sustained, low variance tank level readings across multiple sensor types. This reduces ambiguity between true no-usage scenarios and device or sensor issues, enabling teams to proactively identify and address data quality problems and improving overall confidence in reported tank levels.

WORKFLOW – CASE CREATION

When a Possible Sensor Issue is flagged, a new Maintenance Case is created. The case is assigned a Medium priority and labeled with the case type 'Possible Sensor Issue'. The priority is increased to High if the case remains open for five days and the identified trend persists. The case is automatically closed once the issue is resolved or when a subsequent reading reports a normal value.

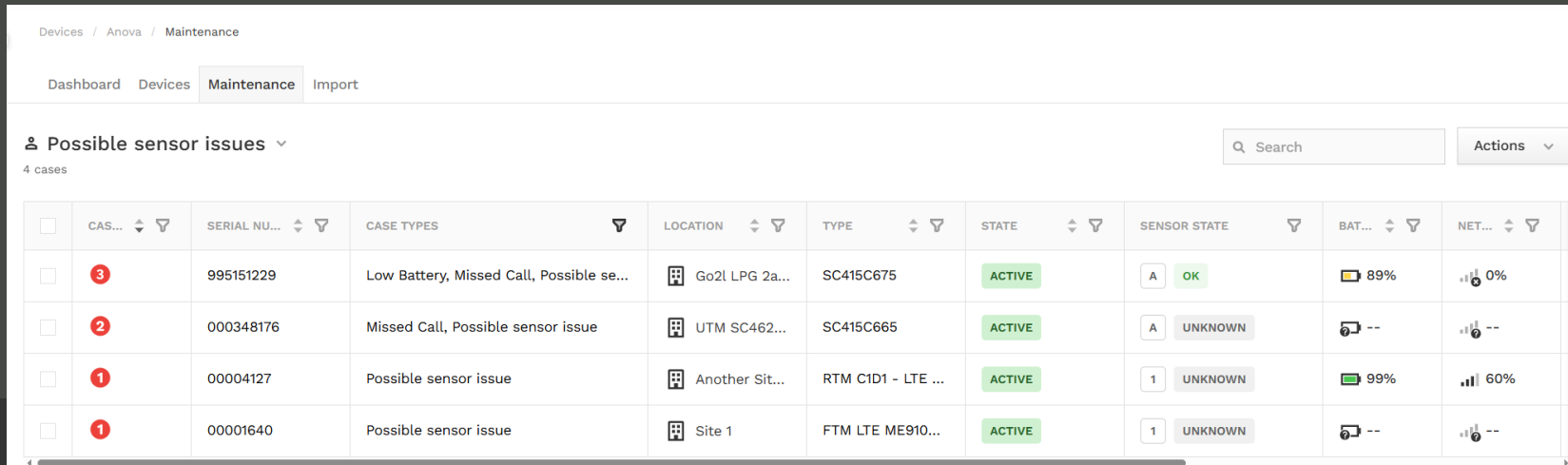


The screenshot shows a maintenance case for ID 00001640. It is currently 'OPEN' with a priority of '1' and a sensor state of 'UNKNOWN'. The case was created on 2/26/26 at 9:51 PM. The description states: 'A possible sensor issue was detected due to a c...'. The recommended action is: 'To fix a possible sensor issue, have a technician ...'. The case has been open for 11 days.

| PRIO... | CREATED | TYPE | STATE | SENSOR STATE | DESCRIPTION | RECOMMENDED ACTION | CLOSED |
|---------|------------------|-----------------------|-------|--------------|--|---|--------|
| 1 | 2/26/26, 9:51 PM | Possible sensor issue | OPEN | 1 UNKNOWN | A possible sensor issue was detected due to a c... | To fix a possible sensor issue, have a technician ... | -- |

REPORTS

Built in reports list all open cases for a tenant. Users can also create custom reports filtered to Possible Sensor Issues only. Reports can be downloaded or scheduled for distribution.



The screenshot shows a report titled 'Possible sensor issues' with 4 cases. The report includes columns for CAS ID, SERIAL NUMBER, CASE TYPES, LOCATION, TYPE, STATE, SENSOR STATE, BAT. %, and NET. %. The cases listed are:

| CAS... | SERIAL NU... | CASE TYPES | LOCATION | TYPE | STATE | SENSOR STATE | BAT... | NET... |
|--------|--------------|--|----------------|--------------------|--------|--------------|--------|--------|
| 3 | 995151229 | Low Battery, Missed Call, Possible se... | Go2l LPG 2a... | SC415C675 | ACTIVE | A OK | 89% | 0% |
| 2 | 000348176 | Missed Call, Possible sensor issue | UTM SC462... | SC415C665 | ACTIVE | A UNKNOWN | -- | -- |
| 1 | 00004127 | Possible sensor issue | Another Sit... | RTM C1D1 - LTE ... | ACTIVE | 1 UNKNOWN | 99% | 60% |
| 1 | 00001640 | Possible sensor issue | Site 1 | FTM LTE ME910... | ACTIVE | 1 UNKNOWN | -- | -- |

TANK LEVEL ICON

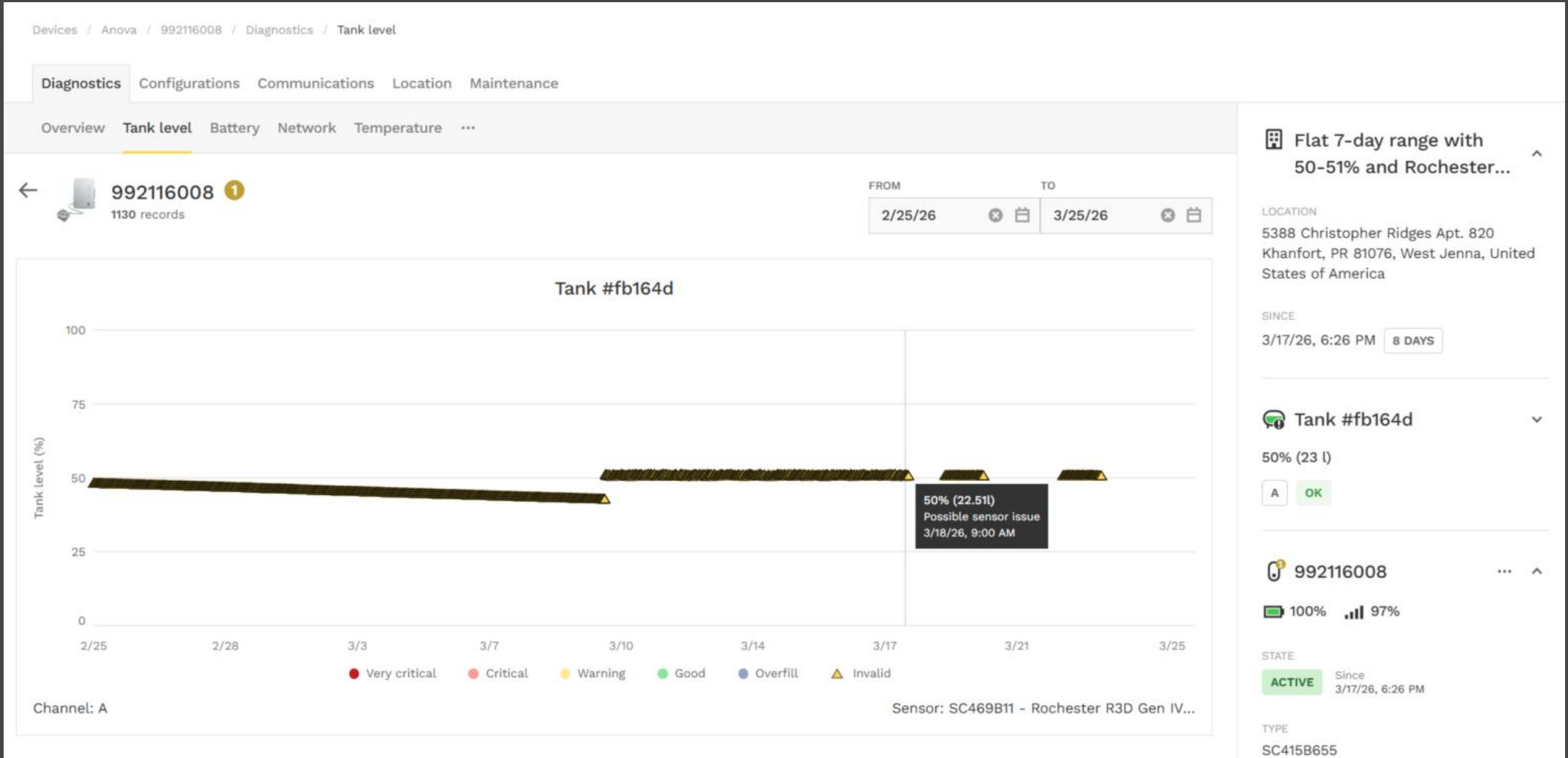
When a tank is allocated to a device with an open Possible Sensor Issue, the tank level icon is displayed with an “!” indicator. This visual cue conveys that the tank telemetry may require further review.

The screenshot shows a dashboard for 'Operations / Anova / IGo group / Go 2M FL LPG / Tanks'. The 'Tanks' tab is active. Below the navigation, there is a section for 'tanks devices cases' with 27 tanks. A table lists three tanks. The first row is highlighted in yellow and has a tooltip that reads 'Good 50% (116 l) Possible sensor issue'. The tooltip is positioned over the tank level icon and percentage. The table columns are: SITE, TANK, LAST READING, SERIAL NUMBER, CASES, and CASE TYPES.

| SITE | TANK | LAST READING | SERIAL NUMBER | CASES | CASE TYPES |
|----------------------|-------------------|-------------------|---------------|-------|------------------------------------|
| Go2l LPG 2a 0d 0 | 1-LPG 2a 0d 0 | 3/17/26, 2:59 PM | 995151229 | 2 | Low Battery, Possible sensor issue |
| Go2l LPG 1a 1d sc471 | 1-LPG 1a 1d sc471 | 11/3/25, 11:07 AM | 994712569 | 1 | Missed Call |
| Go2l FL 1a 1d sc415 | 1-FL 1a 1d sc415 | -- | 994156886 | 1 | Missed Call |

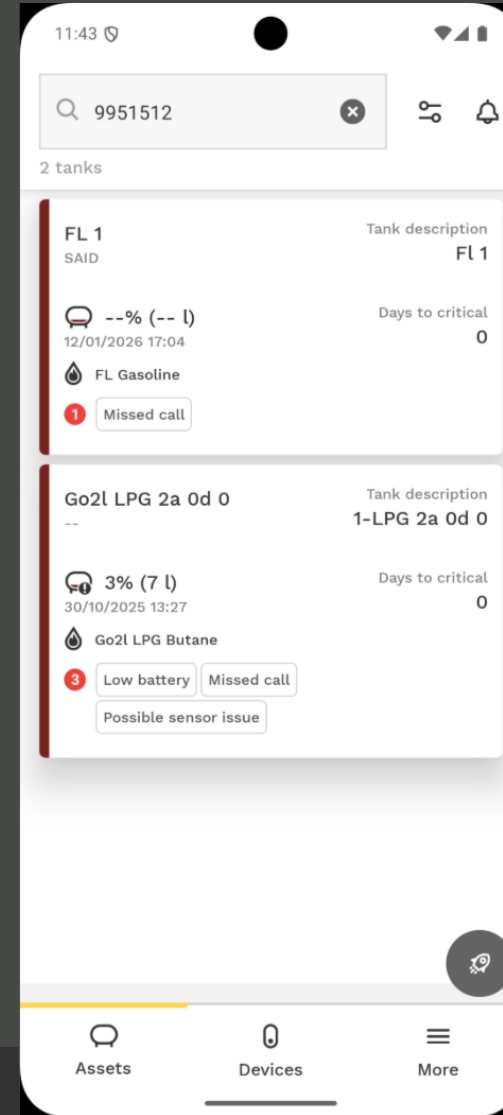
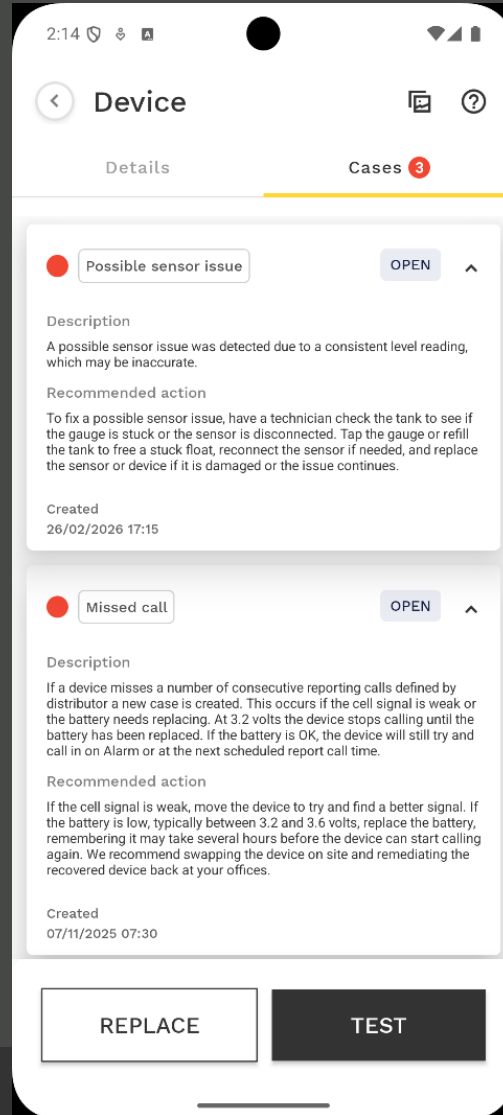
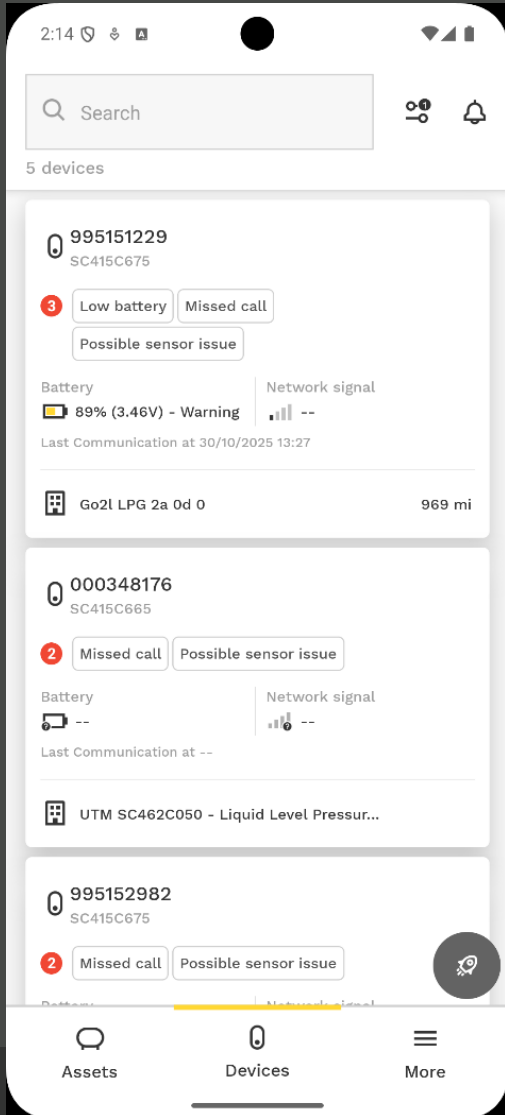
DEVICE DETAILS

When a device has an open Possible Sensor Issue, the tank level chart displays subsequent readings with a yellow triangle indicator. This highlights that the reported reading may be inaccurate or impacted by a sensor issue.



ANOVA GO

This new case type is also available in Anova Go and functions in the same way as existing case types within the application. When a tank is allocated to a device with an open Possible Sensor Issue, the tank level icon is displayed with an “!” indicator. This visual cue conveys that the tank telemetry may require further review.



HOW TO ENABLE

Please reach out to Customer Success Team:

- Contact support@anova.com

NEED FURTHER INFORMATION OR HAVE FEEDBACK:

Please reach out to Customer Success Team to discuss at: support@anova.com

FAQ:

How does a Possible Sensor Issue differ from a Stuck Gauge?

The Stuck Gauge detection model flags any consistently reported value. The Possible Sensor Issue model specifically detects recurring values of 0%, 48%, 50%, and 62%.

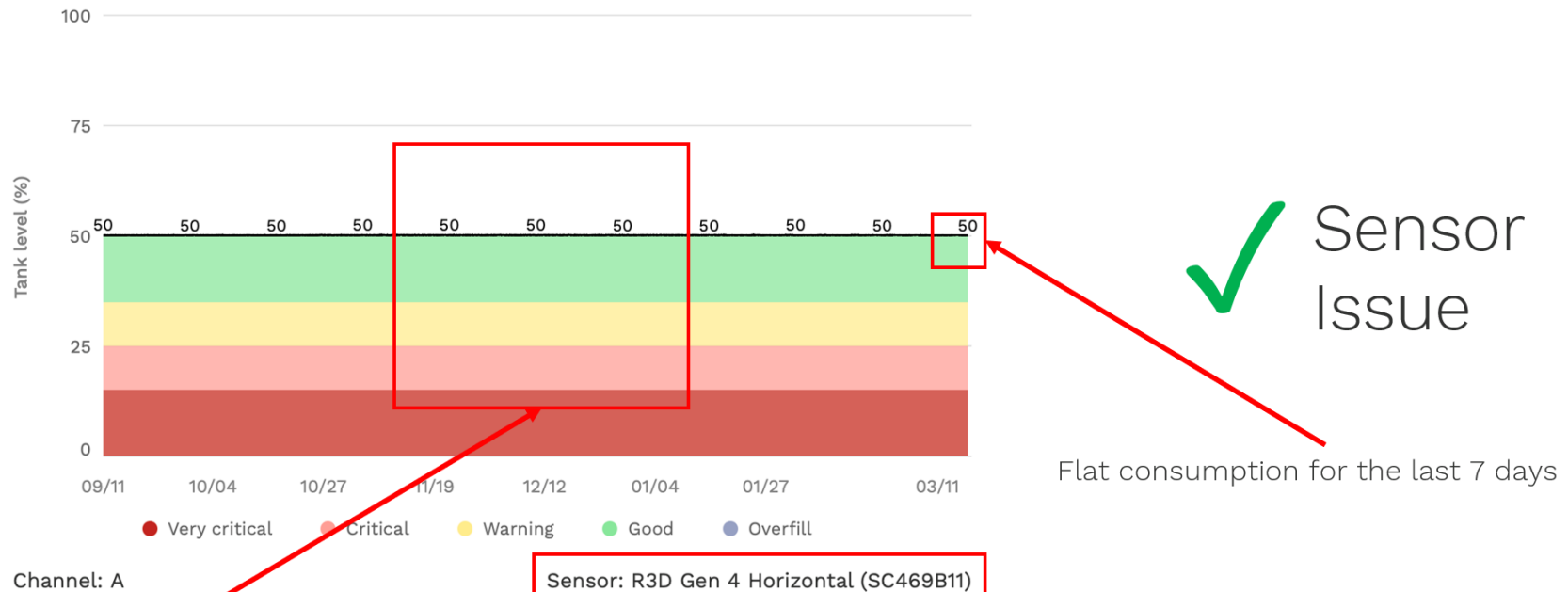
The Possible Sensor Issue model runs before Stuck Gauge. If it flags a device with a Possible Sensor Issue, that device is excluded from the Stuck Gauge analysis.

Read more about the Stuck Gauge topic in our Knowledge Base: <https://support.anova.com/hc/en-us/articles/48823734742419-Unify-Devices-Menu-Stuck-Gauge-Detection-with-Maintenance-Cases-Creation>

EXAMPLES OF POSSIBLE SENSOR ISSUES IN UNIFY: (*SAMPLE DATA – IN TEST ENVIRONMENT*)

EXAMPLE 1:

DEVICE HISTORICAL PATTERN: UNCLEAR, FLAT AT 50%, SENSOR R3D HORIZONTAL -> SENSOR ISSUE



Unclear or intermittent consumption pattern

Sensor type known to cause device to show 50-51% level when unplugged

Flat consumption for the last 7 days

✓ Sensor Issue

EXAMPLES OF POSSIBLE SENSOR ISSUES IN UNIFY: (*SAMPLE DATA – IN TEST ENVIRONMENT*)

EXAMPLE 2:

DEVICE HISTORICAL PATTERN: UNCLEAR, FLAT AT 62%, SENSOR MAGNETEL -> SENSOR ISSUE



✓ Sensor Issue

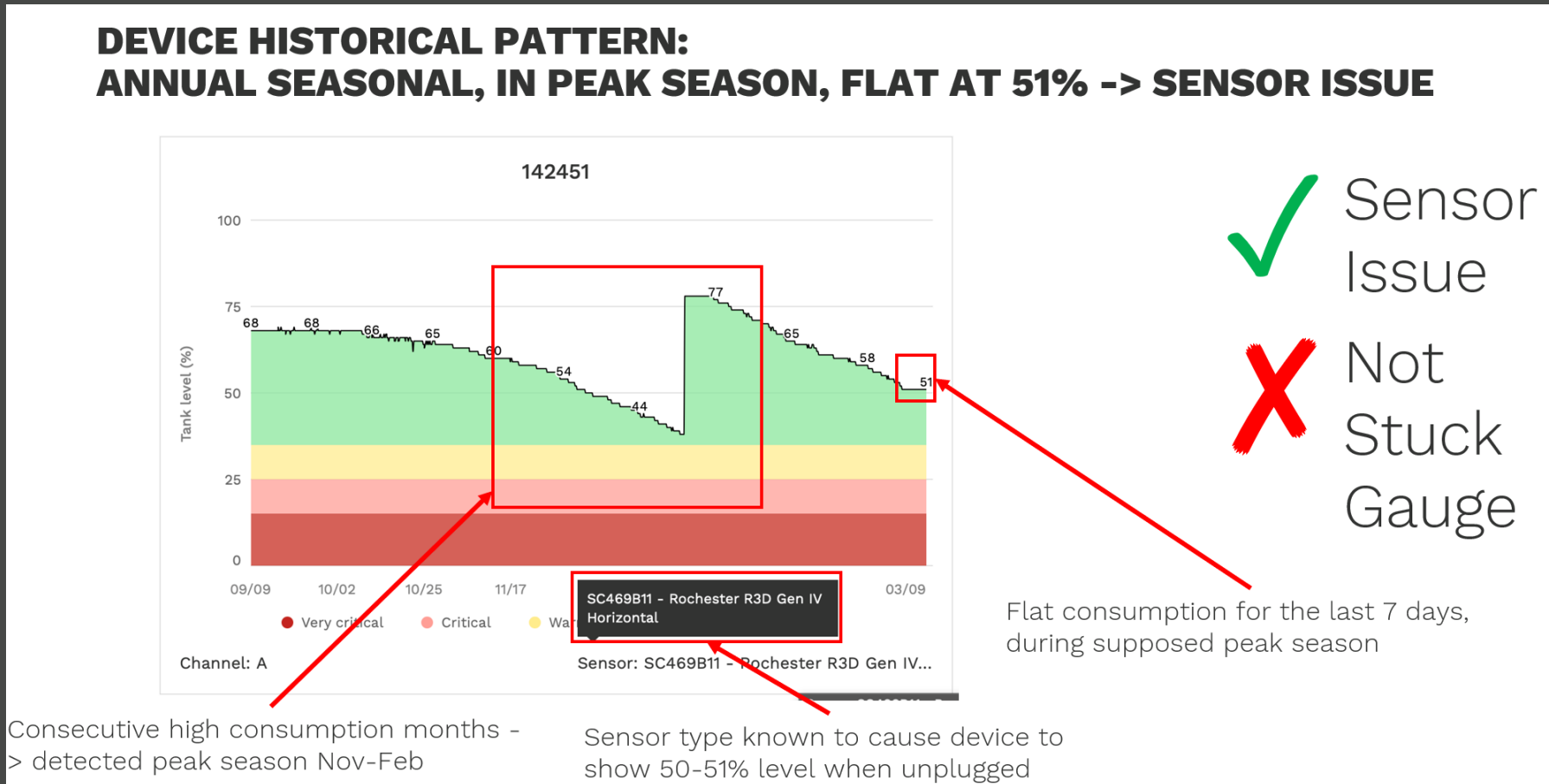
Flat consumption for the last 7 days

Unclear or intermittent consumption pattern

Sensor type known to cause device to show 62-63% level when unplugged

EXAMPLES OF POSSIBLE SENSOR ISSUES IN UNIFY: (*SAMPLE DATA – IN TEST ENVIRONMENT*)

EXAMPLE 3: A device that might have been flagged as Stuck Gauge is now flagged as a Sensor Issue, based on the sensor type and reported value



THANK YOU

support@anova.com

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