

# Detection and Display of Out-of-Range Values in Non-Accumulator Meter Readings

[help.fractal.com/hc/en-us/articles/40116558038669-Detection-and-Display-of-Out-of-Range-Values-in-Non-Accumulator-Meter-Readings](https://help.fractal.com/hc/en-us/articles/40116558038669-Detection-and-Display-of-Out-of-Range-Values-in-Non-Accumulator-Meter-Readings)

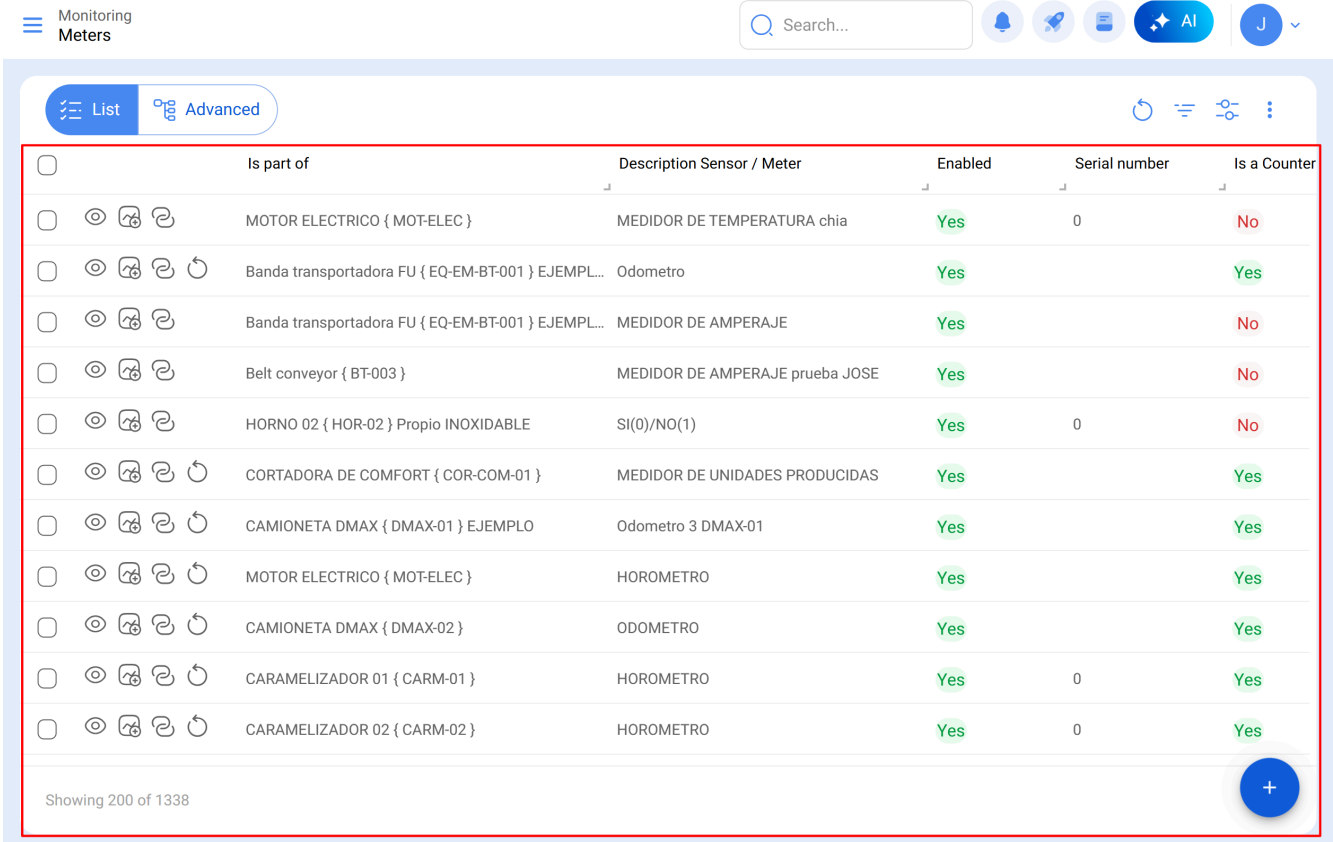
In the **Readings** submodule of meters, the system allows identifying if a reading recorded on a variable-type meter(non-accumulator) is outside the allowed range defined by the minimum and maximum values configured on the meter.

This functionality facilitates the control and analysis of anomalous readings, automatically showing if a value exceeds the defined limits and by how much.

## How to Access Meter Readings

To start, access the main menu of Fractal One and choose the **Meters** module.

In the meters overview, **identify and select the desired meter.**



The screenshot shows the 'Monitoring Meters' interface. At the top, there is a search bar and navigation icons. Below, there are tabs for 'List' and 'Advanced'. The main content is a table with the following columns: 'Is part of', 'Description Sensor / Meter', 'Enabled', 'Serial number', and 'Is a Counter'. The table contains 12 rows of data, each with a checkbox in the first column. The 'Enabled' column shows 'Yes' in green for all rows. The 'Is a Counter' column shows 'No' in red for rows 1, 3, 4, 5, and 6, and 'Yes' in green for rows 2, 7, 8, 9, 10, 11, and 12.

<input type="checkbox"/>	Is part of	Description Sensor / Meter	Enabled	Serial number	Is a Counter
<input type="checkbox"/>	MOTOR ELECTRICO { MOTELEC }	MEDIDOR DE TEMPERATURA chia	Yes	0	No
<input type="checkbox"/>	Banda transportadora FU { EQ-EM-BT-001 } EJEMPL...	Odometro	Yes		Yes
<input type="checkbox"/>	Banda transportadora FU { EQ-EM-BT-001 } EJEMPL...	MEDIDOR DE AMPERAJE	Yes		No
<input type="checkbox"/>	Belt conveyor { BT-003 }	MEDIDOR DE AMPERAJE prueba JOSE	Yes		No
<input type="checkbox"/>	HORNO 02 { HOR-02 } Propio INOXIDABLE	SI(0)/NO(1)	Yes	0	No
<input type="checkbox"/>	CORTADORA DE COMFORT { COR-COM-01 }	MEDIDOR DE UNIDADES PRODUCIDAS	Yes		Yes
<input type="checkbox"/>	CAMIONETA DMAX { DMAX-01 } EJEMPLO	Odometro 3 DMAX-01	Yes		Yes
<input type="checkbox"/>	MOTOR ELECTRICO { MOTELEC }	HOROMETRO	Yes		Yes
<input type="checkbox"/>	CAMIONETA DMAX { DMAX-02 }	ODOMETRO	Yes		Yes
<input type="checkbox"/>	CARAMELIZADOR 01 { CARM-01 }	HOROMETRO	Yes	0	Yes
<input type="checkbox"/>	CARAMELIZADOR 02 { CARM-02 }	HOROMETRO	Yes	0	Yes

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**Note:** only non-accumulator type meters allow viewing this functionality.

Monitoring Meters

Search...

List Advanced

Is part of	Description Sensor / Meter	Enabled	Serial number	Is a Counter / Accumulator...	Unit
MOTOR ELECTRICO { MOT-ELEC }	MEDIDOR DE TEMPERATURA chia	Yes	0	No	GRADC
Banda transportadora FU { EQ-EM-BT-001 } EJEMPL...	Odometro	Yes		Yes	KILOM
Banda transportadora FU { EQ-EM-BT-001 } EJEMPL...	MEDIDOR DE AMPERAJE	Yes		No	AMPEI
Belt conveyer { BT-003 }	MEDIDOR DE AMPERAJE prueba JOSE	Yes		No	AMPEI
HORNO 02 { HOR-02 } Propio INOXIDABLE	SI(0)/NO(1)	Yes	0	No	¿ACTIV
CORTADORA DE COMFORT { COR-COM-01 }	MEDIDOR DE UNIDADES PRODUCIDAS	Yes		Yes	UNIDA
CAMIONETA DMAX { DMAX-01 } EJEMPLO	Odometro 3 DMAX-01	Yes		Yes	KILOM
MOTOR ELECTRICO { MOT-ELEC }	HOROMETRO	Yes		Yes	HORAS
CAMIONETA DMAX { DMAX-02 }	ODOMETRO	Yes		Yes	KILOM
CARAMELIZADOR 01 { CARM-01 }	HOROMETRO	Yes	0	Yes	HORAS
CARAMELIZADOR 02 { CARM-02 }	HOROMETRO	Yes	0	Yes	HORAS

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Once inside the meter, select the **Readings** submodule from the side menu.

Monitoring Meters

MEDIDOR DE AMPERAJE - Banda transportadora FU { EQ-EM-BT-001 } EJEMPLO DE EDICION

Save

Enabled

General

Dashboard

**Readings**

Alarms - Tasks Triggers

Linked elements

<input type="checkbox"/>	Date of entry	Date of Reading ↓	Reading...	Active Ta...	Source	Out of ran...	Value
<input type="checkbox"/>	2025-07-30 06:04	2025-07-30 06:04	6 AMP	No	Manual	Yes	1
<input type="checkbox"/>	2025-02-27 08:47	2025-02-27 08:47	6 AMP	No	Manual	Yes	1
<input type="checkbox"/>	2024-03-29 13:40	2024-03-29 13:40	12 AMP	No	Manual	Yes	7
<input type="checkbox"/>	2022-02-10 11:54	2022-02-10 11:54	12 AMP	No	Work Order	Yes	7

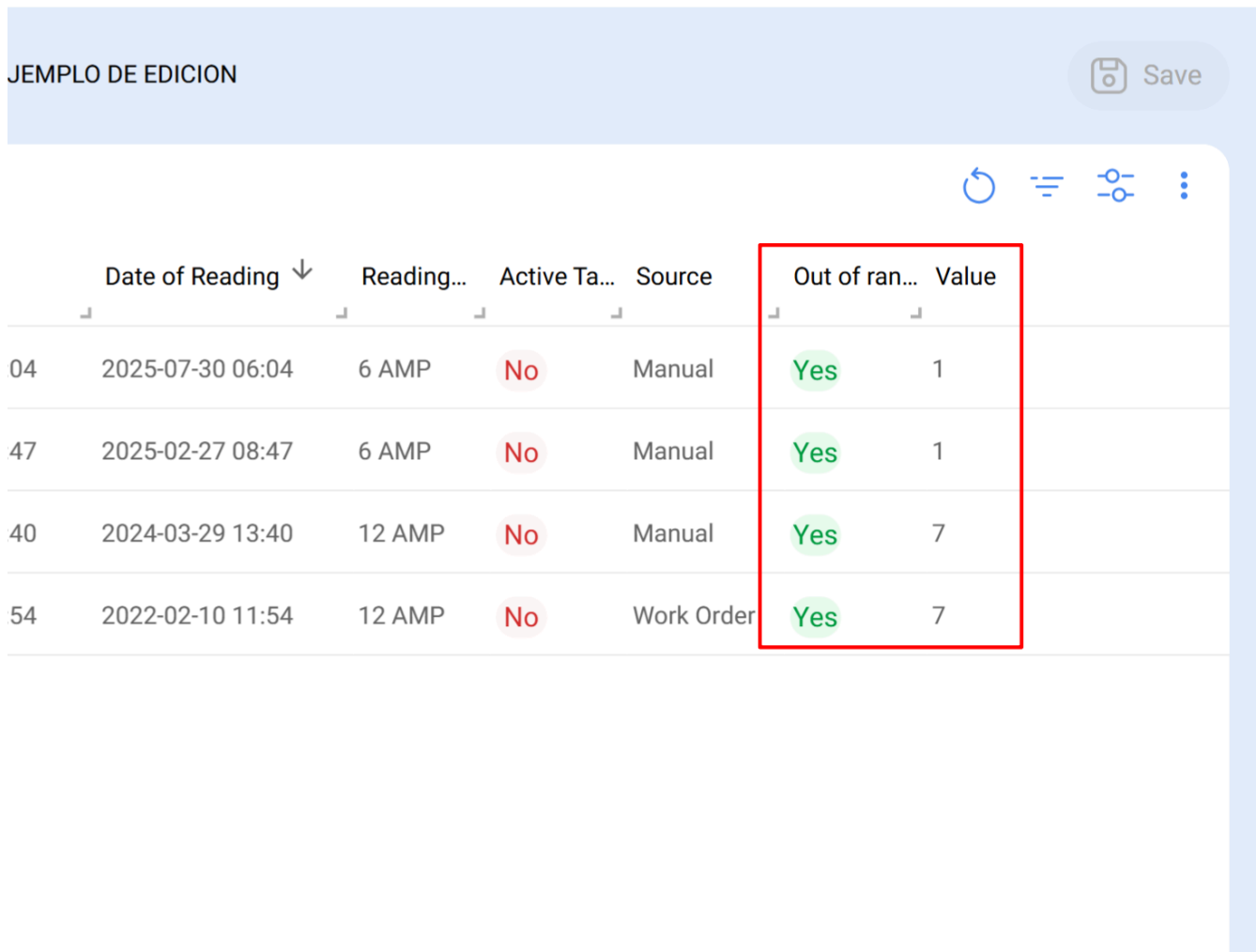
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In the readings history, you can consult the records associated with the meter, along with detailed information about each reading.

## Fields Available in the Readings Table

The readings table includes the following specific columns:

- **Out of Range (Yes/No):** indicates whether the reading is out of the defined range.
- **Value:** shows the difference between the recorded value and the limit that has been exceeded (positive if the value exceeds the maximum, negative if it is below the minimum).



The screenshot shows a table titled "JEMPLO DE EDICION" with a "Save" button. The table has columns: "Date of Reading", "Reading...", "Active Ta...", "Source", "Out of ran...", and "Value". The "Out of ran..." and "Value" columns are highlighted with a red box. The data rows are as follows:

	Date of Reading	Reading...	Active Ta...	Source	Out of ran...	Value
04	2025-07-30 06:04	6 AMP	No	Manual	Yes	1
47	2025-02-27 08:47	6 AMP	No	Manual	Yes	1
40	2024-03-29 13:40	12 AMP	No	Manual	Yes	7
54	2022-02-10 11:54	12 AMP	No	Work Order	Yes	7

These columns do not apply to **cumulative counter type meters**, as their operation is based on progressive increments.

## Practical Example

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Suppose a meter with a range defined between **20** and **100** units:

Registered Reading	Out of Range	Value
<b>115</b>	<b>Yes</b>	<b>15</b>
<b>10</b>	<b>Yes</b>	<b>-10</b>

In this example:

- A reading of **85** is considered within range.
- A reading of **115** exceeds the maximum, with a deviation of **+15**.
- A reading of **10** is below the minimum, with a deviation of **-10**.

Out-of-range readings help detect anomalous behaviors, measurement errors, or operating conditions outside the expected.

**Note:** The minimum and maximum values must be previously defined in the meter configuration for the evaluation to be correct.