

# Does N2KAnalyzer offer a software tool to perform quick fluid level calibrations for all of Maretron's tank monitoring products?

Article Number: 607 | Rating: 5/5 from 1 votes | Last Updated: Thu, Apr 11, 2019 8:46 PM

Yes, N2KAnalyzer offers two types of tank calibrations: Manual Table and Step Fill. Both configuration features can be used to calibrate the correct tank volume for your Maretron tank monitoring product.

Used in conjunction with any of Maretron's tank monitoring products, the Manual table and Step Fill table offers 2 volume entries or an option to input 16 points of a tank volumes for each measured point.

Performing a precise calibration of the tank monitoring product is ideal in any case. Accurately monitoring the tank offers a user in depth data such as the tank's total volume, volume remaining, level percentage, tank type, and tank number. In conjunction with several additional Maretron products you can see data such as distance to empty, time to empty, and total tank volume remaining. Your tank calibrations affect calculated components accurately performing the tank calibrations for each tank ensures believable data on your Maretron display. It is best to study the tank product you have chosen determine the application you want to use the device, start recording real world facts about the application.

Here are several screen shots of different types of tank calibrations one can perform using the N2KAnalyzer PC tool with Maretron's tank products.

Get more information about N2KAnalyzer here: <https://www.maretron.com/products/N2KAnalyzer.php>

## **FPM100 (Manual Table)**

Channel 1 of the FPM100 shows a 10 entry tank table. The Depth column shows vertical distance of the sensor to the first entry point in this case the first entry is 0 inches 0 percent. A helpful aid on the left hand side of the dialog shows the raw reading from the pressure sensor of 8.2mA. On the table you can see how the current reading equals a depth volume around +50%.

FPM100 (0x59) 1659999 CH:1 - Tank Calibration ✕

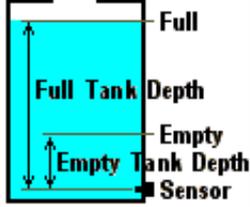
Manual Table | **Step Fill**

Current Tank Calibration

	Depth (")	Level (%)	Volume	Current
1	0.0	0.00	-	4.0
2	18.0	10.00	-	6.1
3	24.0	25.00	-	6.8
4	30.0	35.00	-	7.5
5	35.0	50.00	-	8.0
6	40.0	60.00	-	8.6
7	45.0	70.00	-	9.2
8	50.0	80.00	-	9.8
9	60.0	90.00	-	10.9
10	70.0	100.00	-	12.1
11	-	-	-	-
12	-	-	-	-
13	-	-	-	-
14	-	-	-	-
15	-	-	-	-
16	-	-	-	-

Measured Current (mA):

8.2



Fluid Density :

1000 (Fresh Water) ▾

kg/cu.m

Number of Table Entries:  ▾

Load Config From File...

Save Config To File...

Get Config From Device

Put Config To Device

Close

RED text indicates a changed parameter that has not yet been put to the device

### FPM100 (Step Fill)

The second method is a step fill calibration which requires filling of the tank in varies stages and entering the volume of fluid deposited into the tank. This process is helpful when the shape of the tank is unknown.

1. Begin by clicking on the Step Fill tab at the top of the dialog

FPM100 (0x59) 1659999 CH:1 - Tank Calibration ✕

Manual Table | **Step Fill**

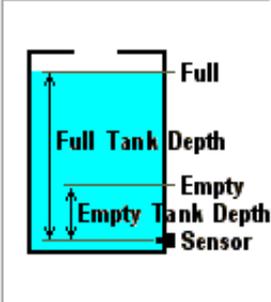
**1** 

Current Tank Calibration

	Depth (")	Level (%)	Volume	Current
1	0.0	0.00	-	4.0
2	18.0	10.00	-	6.1
3	24.0	25.00	-	6.8
4	30.0	35.00	-	7.5
5	35.0	50.00	-	8.0
6	40.0	60.00	-	8.6
7	45.0	70.00	-	9.2
8	50.0	80.00	-	9.8
9	60.0	90.00	-	10.9
10	70.0	100.00	-	12.1
11	-	-	-	-
12	-	-	-	-
13	-	-	-	-
14	-	-	-	-
15	-	-	-	-
16	-	-	-	-

Measured Current (mA):

**8.2**



Fluid Density :

1000 (Fresh Water) ▼

kg/cu.m

Number of Table Entries:  ▲▼

RED text indicates a changed parameter that has not yet been put to the device

2. Follow the Step Fill preparation steps listed on the dialog box shown below. When ready press "Start Calibration" button.

FPM100 (0x59) 1659999 CH:1 - Tank Calibration

Manual Table Step Fill

1. Confirm that your pressure sensor really measures 0.0 PSI at 4mA and 5.0 PSI at 20mA.

2. Select estimated Tank Capacity.

Tank Capacity (Gal) :

500

3. With empty tank, press "Start Calibration" to begin calibration process.

Start Calibration

Load Config From File... Save Config To File...  
Get Config From Device Put Config To Device  
Close

RED text indicates a changed parameter that has not yet been put to the device

3. Begin with the target tank empty, make your first entry point is now at the desired start point in this example 0 gallons press "Step 1/16. Begin filling the tank. Once you have reached a volume point enter a volume total, say 100 gallon of 500 gallon tank press Step 2/16. Continue this process until the tank is full or at the desired final volume to measure. 4. Press Complete to finish the Step fill calibration.

**Tank Calibration - Step Fill Calibration** ✕

Current Tank Calibration

Entry	Depth (")	Level (%)	Volume (Gal)	Current
1	-	-	0.0	-
2	-	-	100	-
3	-	-	200	-
4	-	-	300	-
5	-	-	400	-
6	-	-	500	-
7	-	-	-	-
8	-	-	-	-
9	-	-	-	-
10	-	-	-	-
11	-	-	-	-
12	-	-	-	-
13	-	-	-	-
14	-	-	-	-
15	-	-	-	-
16	-	-	-	-

Tank Capacity (Gal) :

500.0

Measured Current (mA):

19.4

Current Level (Gal) :

500

Step 7/16

Complete

Abort

3. →

4. →

Confirmation of our custom calibration will show. Press OK to confirm.

**N2K Analyzer** ✕

Tank calibration successfully put to device.

OK

Finally, you are back to the manual table were you can review the step fill work performed.

FPM100 (0x59) 1659999 CH:1 - Tank Calibration

Manual Table | Step Fill

Current Tank Calibration

	Depth (")	Level (%)	Volume	Current
1	10.4	0.00	0.0	5.2
2	10.4	0.00	0.0	5.2
3	13.5	20.00	100.0	5.6
4	20.5	40.00	200.0	6.4
5	29.0	60.00	300.0	7.4
6	29.6	60.00	300.0	7.4
7	43.3	80.00	400.0	9.0
8	51.9	100.00	500.0	10.0
9	-	-	-	-
10	-	-	-	-
11	-	-	-	-
12	-	-	-	-
13	-	-	-	-
14	-	-	-	-
15	-	-	-	-
16	-	-	-	-

Measured Current (mA):

**10.0**

Fluid Density :

1000 (Fresh Water) kg/cu.m

Number of Table Entries: 8

Buttons: Load Config From File..., Save Config To File..., Get Config From Device, Put Config To Device, Close

RED text indicates a changed parameter that has not yet been put to the device

**TLM100/150/200 (Manual Table)**

Here is a screenshot of the calibration dialog for aTLM100 (Tank Level Monitor) product offered by Maretron.

Note how the tank depth starts with entry 1 showing 40 inches equals 0% 40 inches is the maximum depth the TLM100 can measure into a tank.

TLM150 Maximum range is 24 inches and the TLM200 Maximum range is 84 inches.

The TLM150 has the same deadband of the TLM100 of 2 inches.

The TLM200 has a deadband of 6", keep this in mind if plan to measure a tank that can be filled full.

Consider the use of an FPM100 with 0-3PSI to obtain a full measurement of tall tanks.

TLM100 (0x73) 1659999 - Tank Calibration ✕

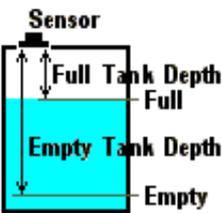
Manual Table | Step Fill

Current Tank Calibration

	Depth (")	Level (%)	Volume (Gal)
1	40.0	0.00	0.0
2	2.0	100.00	0.0
3	-	-	-
4	-	-	-
5	-	-	-
6	-	-	-
7	-	-	-
8	-	-	-
9	-	-	-
10	-	-	-
11	-	-	-
12	-	-	-
13	-	-	-
14	-	-	-
15	-	-	-
16	-	-	-

Measured Depth (") :

12



Number of Table Entries:

Load Config From File...

Save Config To File...

Get Config From Device

Put Config To Device

Close

RED text indicates a changed parameter that has not yet been put to the device

**TLA100(Manual Table)**

Here is a screenshot of the calibration dialog for aTLA100 (Tank Level Adapter) product offered by Maretron.

TLA100 (0x74) 2097151 - Tank Calibration



Manual Table | Step Fill

Current Tank Calibration

Set to American Standard (240-33 ohm)

Set to European Standard (10-180 ohm)

Meas. Resistance (Ohms):

**80**

	Resistance	Level (%)
1	240	0.00
2	33	100.00
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-

Number of Table Entries:

**RED** text indicates a changed parameter that has not yet been put to the device

Posted - Thu, Nov 27, 2014 12:05 AM. This article has been viewed 3738 times.

Online URL: <https://www.maretron.com/support/knowledgebase/phpkbv7/article.php?id=607>