



# Matrix 3 Troubleshooting & How-To Guide

## No PC Signal

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### General Overview

Matrix 3 is a software-based Fluid Management System that runs on one or more of your facilities computers (PC's). This guide only applies to the Graco Matrix 3 Fluid Management System and walks you through issues and the solutions to remedy them.

Throughout this guide, there will be colored text entries, they are:

Links – These are links to other support resources that may be needed to accomplish the task you are working on.

Green Text – These are navigational commands directing you to skip to or reference another section in the guide. If the command is underlined, it will direct you to the location it describes.

Red Text – These are STOP points where you will need assistance from IT, Graco or your Graco distributor.

Specific troubleshooting topics can be found in the instruction manuals below. This guide will provide more theory of operation and detail on addressing specific issues. Click the links or type the numbers into the [Graco.com](https://www.graco.com) search box.

[313046](#) - Meters

[313008](#) - Transceivers

[312964](#) - Tank Level Monitors

[312417](#) - Pump Air Controls

[313013](#) - Matrix 3 Oil Bars

[313104](#) - Basic Software

[313106](#) - Professional Software (includes 3rd Party Interface capability)

[313108](#) - Premier Software (includes 3rd Party Interface capability)

[313112](#) - Premier Software with CDK Interface

[313114](#) - Premier Software with Reynolds & Reynolds Interface

[334786](#) - Premier Software with Procede/Excede Interface

[3A4999](#) - Premier Software with DealerTrack Interface (As an addendum to the Premier Software Manual)

### Notes:

- All PC related references used in this guide are based on the Microsoft Windows 10 Operating System conventions, other versions of Windows operating systems may vary.
- Troubleshooting efforts may require help from your IT/IS staff or vendor. Having them available is highly recommended.
- If you need Matrix software, contact Graco and they will get you a direct download link. All PC's must be running the same version of Matrix software, delete or destroy any different versions you have.
- Check for new and updated content by visiting [graco.com/matrixsupport](https://www.graco.com/matrixsupport), scroll down to the "Guides" section.
- If you find you still need help, contact a Graco Tech Assistance Agent by using the information found at the bottom of each page of this guide.

**Contact Graco LED Tech Assistance at 800-533-9655, option 2 or [LEDtech@graco.com](mailto:LEDtech@graco.com)**



# No PC Signal

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## Overview

This error message can appear when you try to use a Matrix 3 Meter. This guide will provide a list of the most common reasons for the message as well as suggestions for troubleshooting them.

For reference, there are 3 separate error messages that can show up on a Meter.

1. No Signal
2. No RF Signal (Radio Frequency)
3. No PC Signal

## Notes:

1. If you see messages 1 or 2 above, visit [graco.com/matrixsupport](http://graco.com/matrixsupport) and find the “No Signal-No RF Signal” guide for help
2. Items 1 & 2 above are the same error. Earlier versions of the Meters display “No Signal” while newer versions were updated to display “No RF Signal” for clarity. There is no need or benefit to upgrade the Meter because of this.

## Operation

Every time a Meter is turned on, it tries to make contact with the Matrix software to make sure it's profile settings are current first (if not, it will download the updated profile), then it is ready to perform dispenses.

In order for a Meter to successfully communicate with Matrix, all components and the entire path of communication must be intact or unimpeded, this includes:

- The Meter's radio and electronics
- The airspace between the Matrix Meter and the Matrix Transceiver (the wireless part)
- The Transceiver's radio and electronics
- The wiring from the Transceiver to the RS422 Converter (if used)
- The RS422 Converter itself (if used)
- The USB cable from the Transceiver (or RS422 Converter) to the PC
- The PC's USB port
- The facilities network cabling and associated gear (if the Transceiver is plugged into a Matrix Client PC)
- The Matrix Server PC's Ethernet port (also if the Transceiver is plugged into a Matrix Client PC)
- Matrix software is confirmed running on the Matrix Server PC

If the Meter displays “No Signal/No RF Signal”, that means it did **not** get a response back from the Transceiver, visit [graco.com/matrixsupport](http://graco.com/matrixsupport) and find the “No Signal-No RF Signal” guide for help with that instead.

If Meter displays “No PC Signal”, that means that the Meter successfully communicated with the Transceiver, but not the Matrix software. This means the Transceiver itself is working, find other possible reasons listed on the next page.



Possible Reasons (No PC Signal)	Corrective Actions
<p>Matrix not running on Server (there may be more than one Matrix PC), visit <a href="http://graco.com/matrixsupport">graco.com/matrixsupport</a> and find the “Identifying Matrix 3 Computers” guide for help.</p> <p><b>Note:</b> If the Matrix server is not running, all other Matrix PCs will display “Cannot send message to MSC”, it will also cause Meters to show “No PC Signal”.</p>	<p>At the Server, close Matrix if it is open, open again, if it fails, restart services visit <a href="http://graco.com/matrixsupport">graco.com/matrixsupport</a> and find the “Matrix Services” guide for help.</p> <p>If one or more of the services fail to stay running, see the “Troubleshooting” section for help.</p> <p>Once services have been restarted, check Meter(s) again.</p>
<p>If Transceiver is connected to a Matrix Client, the network connection between Server and Client may be disconnected.</p> <p><b>Note:</b> Matrix must be installed on the computer where the Transceiver is plugged in.</p>	<p>On that Matrix Client, close Matrix and reopen, if it opens the network connection is good. Visit <a href="http://graco.com/matrixsupport">graco.com/matrixsupport</a> and find the “Matrix Computer Settings” guide for help getting that computer setup correctly (must be done on computers with Transceivers plugged into them).</p>
<p>Transceiver driver outdated or not found in computer “Device Manager” (“Silicon Labs” entry under “Ports”)</p>	<p>Visit <a href="http://software.gracomatrix.com">software.gracomatrix.com</a> and find the “Matrix 3 Transceiver Drivers” section for help and downloads.</p>
<p>RF interference or signal loss can cause a “timeout” scenario that result in a “No PC Signal” message.</p>	<p>Compare with other Meters talking to the same Transceiver to see if they have the same issue to determine what to troubleshoot next.</p>
<p>Poor signal on current Network ID channel Also reference “RF Interference” corrective actions above</p>	<p>Try another Network ID channel, visit <a href="http://graco.com/matrixsupport">graco.com/matrixsupport</a> and find the “Matrix RF Operating Frequency” guide for help.</p>
<p>Meter in unknown state Also reference “RF Interference” corrective actions above</p>	<ul style="list-style-type: none"> <li>Put Meter into Emergency Mode and then Register again, reference <a href="#">Meter manual</a> above for help</li> <li>Perform a “hard-reset” on the Meter, visit <a href="http://graco.com/matrixsupport">graco.com/matrixsupport</a> and find the “Matrix Meter Hard Reset” guide for help</li> </ul>
<p>Transceiver “USB/RS-422” switch in wrong position</p>	<p>Check or correct.</p>
<p>USB cable between Transceiver and computer or between computer and RS-422 converter (if used)</p>	<p>Check or replace (can swap parts if there are more than one Transceiver or RS-422 to determine what to troubleshoot next).</p>
<p>Faulty RS422 converter (if used).</p>	<p>Test to confirm or replace (can swap parts if there are more than one Transceiver to determine what to troubleshoot next). Visit <a href="http://graco.com/matrixsupport">graco.com/matrixsupport</a> and find the “Add or Replace an RS-422 Converter” guide for help if faulty.</p>
<p>Wiring disconnected, cut or pinched between RS-422 converter and Transceiver.</p>	<ul style="list-style-type: none"> <li>Check or correct.</li> <li>See following page to troubleshoot.</li> </ul>



## Troubleshooting

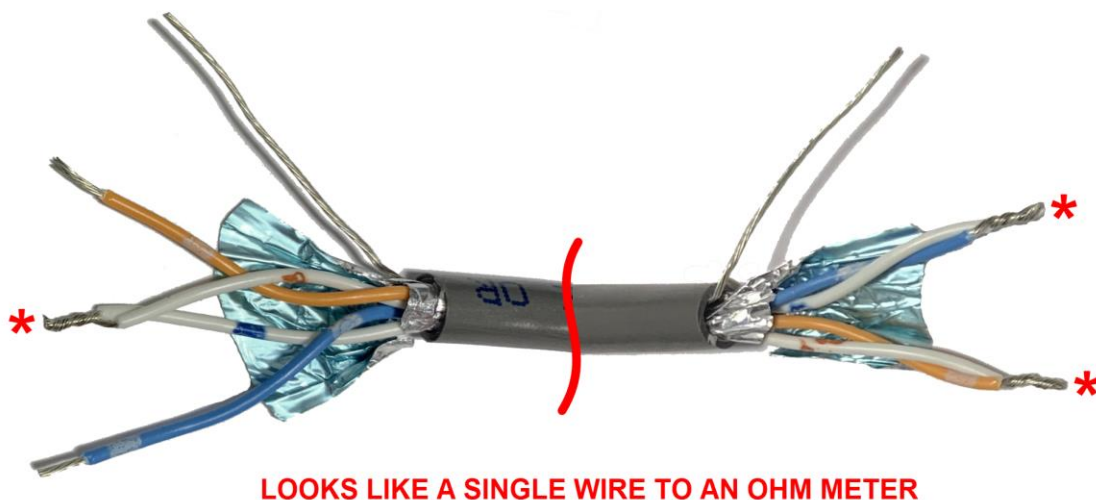
When troubleshooting Matrix Transceiver issues, one of the possible points of failure might be the RS422 wiring. This will help in diagnosing the cable itself. The plan is to make all 4 of the wires in the cable assembly look like 1 continuous wire and then test it for continuity, see below.

### Steps

- Note or take photos of the wiring at both ends to make sure you can put them back the way they were after testing.
- Take all wires out of the green connectors at both ends.
- Wire nut or twist the connections as shown below (if twisted, keep wires from touching others).
- At the end with the two single wires (left side of diagram below), connect the Ohm Meter and test for continuity.
  - If the ohm meter shows the circuit as “open” (not connected), one or more of the wires is broken.
  - If it has continuity, then the cable is good and the issue is elsewhere.

**Note:** If continuity looks good, but the Transceiver still does not show up, it's possible that the wire may have been pinched where some wires are now in contact with others. The next step would be to test each wire separately:

- Remove all connections (twists or wire nuts) at both ends.
- Using ohm meter, check each wire against each of the others.
  - If any show continuity, there is a pinch that must be repaired or re-run new cable.
  - If all are “open” (good), then the issue will be elsewhere.



**Note:** Your wire colors may not be the same as photo (cable shown is Graco part number 119572).

Contact Graco LED Tech Assistance at [800-533-9655](tel:800-533-9655), option 2 or [LEDtech@graco.com](mailto:LEDtech@graco.com)