Matrix 3 Troubleshooting & How-To Guide
Matrix Services

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, clicking 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 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 discard any different versions you have.
- Check for new and updated content by visiting 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.

Matrix Services

Overview
Matrix software is composed of several parts, one is visual and three run in the background as computer services. The visual piece is found by clicking on the "Matrix Client" icon found on the computer desktop or through the "Start" menu, it does not need to be open for Matrix to function. Occasionally, one or more of the background services may stop and may be indicated by a "Cannot Send Message to MSE" message on the PC or a "No PC Signal" message on a Meter. This will guide you through restarting the Matrix services in an attempt to correct issues.

Installation and Operation
Matrix can be installed two different ways (both using the same installer package); as the "Server" and also as "Clients". Clients are optional and may be needed so other users can access Matrix across their net
On the Matrix "Server" PC, there are 3 Matrix Services running in the background, these are:
1. Matrix Service Engine (MSE) – this is the link between the Matrix database and the "Matrix Client" program.
2. Matrix Transceiver Server – this is what manages the Transceiver communications.
3. Matrix3MySql – this is the actual database where all data and settings are kept.

On Matrix "Client" PCs, only 1 Matrix service should be running, this is the Matrix Transceiver Server (#2 above).
The Matrix Transceiver Server service is installed by default on both types of Matrix installations since Transceivers can be plugged into any Matrix PC. If one is plugged into a Matrix Client, that Client will relay all Transceiver communications to the Matrix Server across the company network. That network connection MUST be intact for Transceiver communications to work.

In order for the Matrix Client program to open on any PC, the "MSE" service must be running on the Matrix Server first. If the "Cannot Send Message to MSE" message appears on the Matrix Server, it will also appear on all Matrix Clients since they all display data from the Matrix Server. If Matrix is running on the Server, but one or more Matrix Clients cannot open, visit graco.com/matrixsupport and find the "Unable to Send Message to MSE – Client" guide for help.

Note: Restarting Services is a common approach to repairing Matrix related issues much like restarting a computer is.

Toggling Services on the Matrix Server
1. Click the PC "Start" button and type "Services".
2. The PC should find "Services", click to open it.
3. This will bring up a window with the title "Services".
4. Scroll down until you find the Matrix services.
5. Right-click the "Matrix3MySql" service and choose "Stop".
6. Click on "Yes" (this forces the other dependent services to stop also).
7. Once done, right-click the "Matrix Transceiver Server" service.
8. Click on "Start" (this forces the other two services to start).
9. On the Menu bar, click on "Action>Refresh" and observe if all the services are still "Started" or "Running".
10. Try opening Matrix again, if still having issues, visit graco.com/matrixsupport and find the "Unable to Send Message to MSE – Server" guide for help.

Contact Graco LED Tech Assistance at 800-533-9655, option 2 or LEDtech@graco.com

Toggling Services on a Matrix Client

There is no need to restart services on Matrix Clients unless you have Transceivers connected to them that are experiencing connectivity issues. Properly installed Matrix Clients should only have the Transceiver service running on them. If you find more than one service, it was either installed as a Server or it might be the Server, visit graco.com/matrixsupport and find the "Identifying Matrix 3 Computers" guide for help.

If you are having communication issues through a Transceiver connected to a Client, you will need to restart the Transceiver service on that specific client.

1. Go to the client with the Transceiver plugged into it.
2. Click the PC "Start" button and type "Services".
3. The PC should find "Services", click to open it.
4. This will bring up a window with the title "Services".
5. Scroll down until you find the Matrix Transceiver Server service.
6. Right-click it and click on "Stop".
7. Once done, right-click the "Matrix Transceiver Server" service again and click on "Start".
8. On the Menu bar, click on "Action>Refresh" and observe if the service is still "Started" or "Running".
9. Test communication again, if still having issues (as in seeing "No PC Signal" or No RF Signal" on Matrix Meters, visit graco.com/matrixsupport and find the "No PC Signal" or No RF Signal" guides for help.

Troubleshooting

Content below applies to the Matrix Server unless noted.

Matrix Transceiver Server (requires both other services to be running)
If this is stopped or fails to stay running, the most likely reason is that the PC name was changed. This may happen if Matrix was installed and the PC name was changed afterwards. You can check/change the values found in the Matrix Properties File Editor (Edit Matrix Settings) next to the "Matrix Database Server host name" and "Matrix Server (MSE) host name" fields if needed. visit graco.com/matrixsupport and find the "Edit Matrix Settings" guide for help.

Note: This service is required to be running on any Matrix Clients that have a Transceiver plugged into them.

Matrix Service Engine (requires the Matrix3MySql service to be running)
Typically, you will see a pop-up message on the PC - "Unable to Send Message to MSE". There are several possible causes:

1. The Matrix "Server" PC was just started or rebooted and Matrix was opened too soon afterwards. Wait 10 seconds and try opening Matrix again, if it still fails, restart services and try again.
2. The service was interrupted or possibly deleted by an antivirus/malware program
   a. Consult IT for help with antivirus related issues
   b. Reinstall Matrix if the service was deleted (also have IT make sure it won't happen again)
      i. Make sure to manually export the database first so it can be imported when done.
3. There may be a password set in this service that allows two Matrix features to function correctly (if enabled), they are:
   a. Automatic Per Dispense Reports
   b. Automated Daily Backups (when directed to a network drive instead of the local hard drive)
   Note: This usually occurs soon after a user changes their network logon password (if it was the same password used for the MSE service), visit graco.com/matrixsupport and find the "Matrix Printing and Backup Settings" guide for help.

Matrix3MySql (has no dependencies, but must be running first for others to run)
If this fails to stay running, there is a corrupt file issue and the following procedure may fix it.
1. Stop all 3 services
2. Go to this folder: C:\Program Files (x86)\Graco\Matrix3\Database\data
3. Move/cut the file "ib_logfile0" out of the folder and place elsewhere, **don't delete it**!
4. Start all 3 services (this will create a new "ib_logfile0" file)
5. Stop all 3 services again
6. Move the old "ib_logfile0" file you moved earlier back into this folder and overwrite the new one
7. Start all 3 services again
8. Try opening Matrix again

If this does not work, you will need to reinstall the same exact version of Matrix and see if importing one of the database backups found in "C:\MatrixDbBackups" corrects the issue. To import, the default username is "matrix" and the password is "graco", once the database is imported, the specific user accounts usernames and passwords will work again.

If that doesn't work either, you will need to setup everything from scratch. Depending on how many PCs have Matrix installed, you have a couple options:

1. Install the same version you were previously running (highly recommended), visit graco.com/matrixsupport and find the "Identifying Matrix 3 Software" guide for help.
2. Install the latest version of Matrix – this will typically take longer, especially if you have multiple Matrix PCs, you can download and install the latest version at software.gracomatrix.com.

Note: If you chose option 2 above and have Client PCs, you can run the Matrix 3.9.40 software on the Server directly over your current version if it is currently 3.3.1 or newer, it will automatically update the old Server. For Clients, you will need to uninstall Matrix first, then run the same installer, but choose the "Custom" option, then all defaults. Visit graco.com/matrixsupport and find the "Installing Matrix 3 Software" guide for help.