

# **BTD-200 System** Firmware and Software Update

BTD-200 System Update Instructions



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# **1** INTRODUCTION

The addition of the Lightning Works Messenger software to the range of BTD-200 system accessories in March of 2020 required an update to the way in which the BTD-200 sensor communicated with both the Lightning Works Server and the Lightning Works Client. BTD-200 sensors purchased prior to March 2020 must have their firmware updated and the latest versions of the Lightning Works Server and Client installed on the user computer systems before using Lightning Works Messenger. The old versions of BTD-200 sensor firmware are not compatible with the latest versions of Lightning Works Server or Client. Attempting to use incompatible versions will cause the system to stop operating.

In addition to providing compatibility with the Lightning Works Messenger, the latest versions of Lightning Works Server and Client also include a change to the way archive data is exported. The data format has been simplified and headers have been included at the start of each file to assist with data interpretation.

This document describes how to update your BTD-200 sensor to the latest version of firmware and install the latest version of Lightning Works Server and Client. We have tried to make the update process as simple as possible, but if you need assistance please do not hesitate to contact our Service Team by email or telephone, the contact details are shown on the first page.

# 2 UPDATE INSTRUCTIONS

Please read through the entire document before attempting the update to ensure you are fully familiar with what you need to do. Ensure you have enough time to complete the whole update, remember the system will not function at all unless all components are updated.

The updates should be performed in the order shown. Attempting to the perform the update in a different order may cause the system to stop working.

You will need administrator rights for the computers to perform these updates. If you do not have administrator rights, please consult your IT department.



## 2.1 Download the Required Files

To perform the update, you must download three files from the Biral website. The files can be found on the Software Downloads page in the Support section of the website, at the following link <u>https://www.biral.com/service-support/downloads/software-downloads/</u>

The required files are:

- Lightning Works Server Setup
- Lightning Works Client Setup
- BTD-200 Sensor Firmware Update

Download the files and save them to a temporary location on your computer, you may find it easier if you save each one in a separate folder. The downloads are zipped to reduce the file size, they must be extracted before they can be used. To extract the files, right click on the file and select the "Extract all.." option. Follow the Windows instructions to extract the files.

### 2.2 Backing Up Your Archived Data and Settings

The Lightning Works Server saves data generated by your BTD-200 sensor on the hard drive of the computer on which it is installed. You can export this data using the Lightning Works Client on a day by day basis if you need to review past thunderstorm warnings.

If you wish to retain access to this historic data, you must back it up before doing anything further. You may also wish to backup settings such as the Administrator password and map location data. **Installing the latest version of the Lightning Works Server without backing up your data and settings will result in it being permanently deleted.** 

Lightning Works Client allows the user to configure the way the software works on the User Computer. If you wish to retain these settings, please follow the Lightning Works Client settings backup instructions.



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#### 2.2.1 Backing Up Your Data and Server Settings

• On the computer running the Lightning Works Server, open File Explorer and type %programdata% into the location box and press enter.

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File Home Share	View			~ <b>?</b>
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$\leftarrow \rightarrow \land \uparrow$ his PC	> Local Disk (C:) > ProgramData >	~ 0	© Search Prog	ramData
<ul> <li>OneDrive</li> </ul>	Name	Date modifie	d Type	^
This DC	Adobe	14/11/2019 12	2:56 File fol	der
	Applications	14/11/2019 21	I:17 File fol	der
3D Objects	hdlogging	14/11/2019 22	2:09 File fol	der
E. Desktop	Biral	20/12/2019 14	4:44 File fol	der
付 Documents	Dassault Systemes	25/11/2019 11	l:14 File fol	der
🖶 Downloads	FLEXnet	25/11/2019 11	l:15 File fol	der
Music	GetSupportService_N-Central	11/03/2020 13	3:57 File fol	der
Pictures	Hewlett-Packard	18/11/2019 20	):10 File fol	der
		12/11/2010 20	NA4 POL 2-1	
36 items				

- Open the Biral folder by double clicking on it.
- Select the Lightning Works Server folder and make a copy. You can do this by right clicking on the folder and selecting copy, then place your mouse pointer below the folder, right click and select paste. A new folder called "Lightning Works Server – Copy" will have been created.

F Home Share	View		- 0	× ^ 🌓
Pin to Quick Copy Paste	Move to v X Delete v Copy to v Rename New folder	Properties	Select all Select none	
Clipboard	Organise New	Open	Select	
$\leftarrow$ $\rightarrow$ $\checkmark$ $\uparrow$ $\square$ $<$ Local D	isk (C:) > ProgramData > Biral >	ٽ ~	,○ Search Biral	
Pictures ^	Name	Date modified	I Туре	
Videos	Lightning Works Client	20/12/2019 14	:46 File folder	
🏥 Local Disk (C:)	Lightning Works Server	11/03/2020 14	:57 File folder	
👳 sys (\\ ) (G:)	Lightning Works Server - Copy	11/03/2020 14	:58 File folder	
<b>—</b>	<			>
3 items 1 item selected				:::



• You may now proceed with the rest of the update process.

#### 2.2.2 Backing Up Your Lightning Works Client Settings

As the settings for each installation of Lightning Works Client can be different the steps described below should be followed for each computer running Lightning Works Client.

• On the computer running the Lightning Works Client, open File Explorer and type %programdata% into the location box and press enter.

📙   🛃 📑 🖛 I ProgramData			– 🗆 X
File Home Share	View		~ 🕐
Pin to Quick Copy Paste	Move to V Delete V Copy to V Rename New folder	Properties	Select all Select none
Clipboard	Organise New	Open	Select
← → × ↑ 📙 > This PC	C → Local Disk (C:) → ProgramData →	√ ē	
<ul> <li>OneDrive</li> </ul>	Name	Date modified	Туре
This DC	Adobe	14/11/2019 12:	56 File folder
	Applications	14/11/2019 21:	17 File folder
3D Objects	hdlogging	14/11/2019 22:	09 File folder
E. Desktop	Biral	20/12/2019 14:	44 File folder
👸 Documents	Dassault Systemes	25/11/2019 11:	14 File folder
🕂 Downloads	FLEXnet	25/11/2019 11:	15 File folder
h Music	GetSupportService_N-Central	11/03/2020 13:	57 File folder
Pictures	Hewlett-Packard	18/11/2019 20:	10 File folder
Videos V	- LID	12/11/2010 20.	A4 101.2.101.1 V
36 items	•		

• Open the Biral folder by double clicking on it.

- Select the Lightning Works Client folder and make a copy. You can do this by right clicking on the folder and selecting copy, then place your mouse pointer below the folder, right click and select paste. A new folder called "Lightning Works Client – Copy" will have been created
- You may now proceed with the rest of the update process.



# 2.3 Uninstall Lightning Works Server and Client

If you have Lightning Works Client installed on multiple computers, you must uninstall it on each computer in turn.

• From the computer's Control Panel select "Programs and Features".

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÷	$ ightarrow \ \star \ \star \ \overline{\mathbf{a}} \  imes \ Control \ P$	anel > All Control Panel Items > Programs and Features		5 v	🔎 Search I	Programs an.			
	Control Panel Home Uninstall or change a program								
	View installed updates	To uninstall a program, select it from the list and then	click Uninstall, Change or Repair.						
•	Turn Windows features on or off	Organise 🔻 Uninstall Change				::: • (?	>		
	Install a program from the network	Name	Publisher	Installed On	Size	Version	^		
		हे Garmin USB Drivers © Google Chrome 🔐 HP SoftPaq Download Manager	Garmin Ltd or its subsidiaries Google LLC HP	28/12/2019 06/03/2020 13/11/2019	572 KB 41.7 MB	2.3.1.0 80.0.3987.13 4.4.0.0	3		
		I LARA	Biral	20/11/2019	154 MB	1.0.2			
		Eightning Works Client	Biral	20/12/2019	126 MB	1.1.5			
		🖤 Lightning Works Messenger	BIRAL	22/01/2020	147 MB	1.0.0.0			
		Real Lightning Works Server	Biral	11/03/2020	120 MB	1.1.3			
		U Microsoft Office 365 ProPlus - en-us	Microsoft Corporation	09/03/2020		16.0.12527.	2		
		Microsoft OneDrive	Microsoft Corporation	19/02/2020	136 MB	19.232.1124	•		
		Wicrosoft Silverlight	Microsoft Corporation	29/01/2020	50.7 MB	5.1.50918.0	,		
		Microsoft learns	Microsoft Corporation	10/11/2019	91.0 1/16	1.2.00.2473	<b>`</b> ∼		
	<								
		Biral Product version: 1.1.5 Help link: http://www.biral.com	Support link: <u>http://www.biral.c</u> n Size: 126 MB	:om					

- Click on Lightning Works Client and then on the Uninstall button at the top of the list. Follow the instructions given in the popup boxes to confirm the uninstall.
- Click on Lightning Works Server and then on the Uninstall button at the top of the list. Follow the instructions given in the popup boxes to confirm the uninstall.
- In Windows 10 you can also use the "Add or Remove Programs" process by typing "Add or Remove Programs" in the search box of the Task Bar.



## 2.4 Updating the BTD-200 Sensor Firmware

Ensure that you read these instructions carefully before carrying out the update.

The BTD-200 Sensor firmware update should only be performed using a wired connection between the sensor's primary communications port and the User Computer. This is the normal method of connection for the BTD-200 sensor. **DO NOT** attempt to update the BTD-200 Sensor Firmware if a modem or wireless link of any form has been used in the connection between the BTD-200 sensor and the User Computer. If such a connection has been used, consult Biral before attempting the update.

#### 2.4.1 Installing the Firmware Update software

Before you can update the BTD-200 firmware you must install the BTD200 firmware update application on the computer that has the connection to the BTD-200 sensor. This will be the computer that had the Lightning Works Server installed on it. To install the software, follow the instructions given below.

- Locate the folder where the BTD-200 Sensor Firmware Update was extracted to.
- Run the program BTD200UpdateSetup.exe by double clicking on the file name, this will install the software onto the computer.
- Follow the instructions to install the software and accept the licence agreement.
- You will be asked to confirm allowing the application to make changes to your device, answer Yes
- After installation, the shortcut icon shown below will appear on the desktop.







#### 2.4.2 Running the Firmware Update Software

To update the BTD-200 sensor, follow the instructions given below.

- Connect the BTD-200 sensor primary data port to the computer and turn on the power to the sensor. If you are updating an existing installation the primary data connection should already be in place. If you are performing the update using another computer, refer to the BTD-200 User Manual for details of how to connect the primary data cable.
- Run the BTD-200 Firmware Update software by double clicking on the desk top icon. You will be asked to confirm running the application as an administrator, answer Yes. The display will be:

INFORMATION						
In order to update the BTD-200 Firmware please make sure that the following steps have been performed:						
The BTD-200 must be connected using the Primary Communication Port.						
The Lightning Works Server service must be stopped.						
Please read the Instructions before continuing						
Continue Cancel						

• If the Lightning Works Server has been uninstalled in accordance with the earlier instructions, then press the Continue button. If not, then press the Cancel button and the update process will stop and the program will close. Uninstall the Lightning Works Server before continuing.



• If Continue has been pressed, the display will be:

💀 BTD-200 Firmware Update	_		×			
Primary Connection         Connect to Primary Port on BTD-200         Port:       Auto         Port:       Auto         Baud:       57600         Verbose Output		Connected	I			
Current Version: Version to Load: V03.00.000	rogram					
Version: SI100340.00A:						

- The COM Port box will show "AUTO". And contain a list of available ports on the system. Selecting AUTO will attempt to access the BTD-200 via each available port in turn until the BTD-200 is found. If the port number is already known, it can be selected from the list.
- Select the port you require using the drop down arrow, or use AUTO.
- The Baud Rate box will show the 57600 Baud Rate.
- Version to Load: shows the version number of the firmware that will be installed on the sensor.
- Click on the connect button.





• The display will change to:

🖳 BTD-200 Firmware Update	_		×
Primary Connection         Connect to Primary Port on BTD-200         Port:       Auto         Baud:       57600         Verbose Output       Overrun		Connected	
Current Version: Version to Load: V03.00.00.00	rogram		
Searching for BTD-200, Please wait			
Version: SI100340.00A			:

• While attempting to connect to the BTD in AUTO mode the progress bar will update with each port tried until either the connection is made, or no connections are found. The length of time this will take will depend on the number of assigned COM ports on the PC.



• Once connected the Load Program button will be activated and the message "Press Load Program to start Upload" will be displayed:

🖳 BTD-200 Firmware Update	_		×
Primary Connection         Connect to Primary Port on BTD-200         Port:       Auto         Baud:       57600         Verbose Output       Overrun			ł
Current Version: V02.00.00.00 Version to Load: V03.00.00.00	rogram	]	
Searching for BTD-200, Please wait Found BTD on port COM5 Press Load Program button to start Upload			
Version: SI100340.00A			





• Click on the Load Program button. The programming process will begin. The Close and Load Program buttons will be disabled, and the progress bar will update during programming.

🖳 BTD-200 Firmware Update	_		×
Primary Connection         Connect to Primary Port on BTD-200         Port:       Auto         Port:       Auto         Baud:       57600         Verbose Output       Overrun		Connected	
Current Version: V02.00.00.00 Version to Load: V03.00.00.00	rogram		
Searching for BTD-200, Please wait Found BTD on port COM5 Press Load Program button to start Upload Starting Upload Process, Please Wait Entering Bootloader HEX File Loaded Rash Erased Programming Flash, Please Wait			
Version: SI100340.00A			.::

• This takes approximately 5 minutes. If for any reason the program is interrupted, or the sensor loses power during the programming process the sensor will become stuck in the bootloader. If this happens see the troubleshooting section below.



• On Completion the progress bar will be full, and the program will check the version and update some internal parameters, the display will be:

🖳 BTD-200 Firmware Update		-		×		
Primary Connection						
Connect to Primary Port on BTD-200			Connected	I		
Port: Auto 🗸	Close					
Baud: 57600 ~ Ref	fresh Ports					
Verbose Output Overrun						
Current Version: V03.00.00.00						
Version to Load: V03.00.00.00	Load P					
Searching for BTD-200, Please wait Found BTD on port COM5 Press Load Program button to start Upload Starting Upload Process, Please Wait Entering Bootloader HEX File Loaded Flash Erased Programming Flash, Please Wait Programming completed Verification successful Command issued to run application Updating Parameters, Please Wait						
				BTD-20	00 Firmware Update	×
				Updat	te Finished	
V					ОК	
version: SI100340.00A						

- A Message Box will be displayed confirming that the firmware update has completed.
- Press OK, which will close the program.
- The BTD-200 sensor firmware has now been updated and you can continue with the rest of the system update as described in section 2.5.
- If you have encountered any problems, please see section 2.4.3 below.





#### 2.4.3 Troubleshooting

#### 2.4.3.1 Loss of Power or Communications

If for any reason the program is interrupted, or the BTD-200 sensor loses power during the programming process the sensor will remain in the bootloader. If this happens, the display will have the message "No response from Sensor- Restart the program". Please run the program again.

💀 BTD-200 Firmware Update	_		×
Primary Connection         Connect to Primary Port on BTD-200         Port:       Auto         Port:       Auto         Baud:       57600         Verbose Output		Connected	I
Current Version: Version to Load: V03.00.00	Program		
Version: SI100340.00A			:

Once the program has restarted, the BTD-200 firmware update process can be repeated from the beginning.



#### 2.4.3.2 Firmware Already Updated

If the BTD has already been updated the program will display:

🖳 BTD-200 Firmware Update	_		×					
Primary Connection								
Connect to Primary Port on BTD-200		Connected						
Port: Auto V Connect								
Baud: 57600 V Refresh Ports								
Verbose Output Overrun								
Current Version: V03.00.00								
Version to Load: V03.00.00.00								
Searching for BTD-200, Please wait Found BTD on port COM5 BTD-200 Firmware does not need updating Please Close the Program								
Version: SI100340.00A								

The program can be closed, and you can continue with the rest of the system update as described in section 2.5.

If there are any problems or you are uncertain at any time, please contact Biral using the contact details given on page 1.





# 2.5 Installing Lightning Works Server and Client

#### 2.5.1 Lightning Works Server

Install the Lightning Works Server on the same computer as it was previously installed. This is the computer that has the physical connection to the BTD-200 Sensor.

- Install the latest version of Lightning Works Server using the installation file downloaded in section 2.1.
- Open the folder and double click the "Lightning Works Server Setup" application.
- Detailed instructions for installing the Lightning Works Server software are provided in the BTD-200 manual.

#### 2.5.2 Lightning Works Client

Install the Lightning Works Client on each computer on the local network that requires access to the BTD-200 Lightning Works software.

- Install the latest version of Lightning Works Client using the installation file downloaded in section 2.1.
- Open the folder and double click the "Lightning Works Client Setup" application.
- Detailed instructions for installing the Lightning Works Client software are provided in the BTD-200 manual.



# 2.6 Restoring the Archived Data and Server Settings

The following steps are performed on the computer running the Lightning Works Server, this is the computer connected to the BTD-200 sensor.

• Locate the backup folder created in the %programdata%\Biral folder as described in section 2.2.1. Open the folder by double clicking on it.



• To restore the archived data, copy the file named "btd200.sqlite" to the Lightning Works Server folder. If the file exists, you will need to confirm the file replacement by clicking in Continue, as shown below.



- To restore the settings, copy the file named "btdConfig.XML" to the Lightning Works Server folder. You will be asked to confirm the replacement of the file.
- Restart the computer.





# 2.7 Restoring the Client Settings

The following steps are performed on each computer running the Lightning Works Client.

• Locate the backup folder created in the %programdata%\Biral folder as described in section 2.2.2. Open the folder by double clicking on it.

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F Home Share	View				^ <b>°</b> E	
* 🗋 🗂 🖌	Move to 🔻 🗙 Delete 🔻			Select all Select nor	ne	
Pin to Quick Copy Paste access	📮 Copy to 👻 📑 Rename	New Prope folder •	erties 🛃 🔒	Invert sele	ction	
Clipboard	Organise	New	Open	Select		
$\leftarrow$ $\rightarrow$ $\checkmark$ $\bigstar$ Biral $\Rightarrow$ Lightning Works Client - Copy $\checkmark$ $\circlearrowright$ $\checkmark$ Search Lightning W						
Pictures ^	Name	C	Date modified	1	Гуре	
Videos	clientConfig	1	0/02/2020 11:55	)	ML Document	
🏥 Local Disk (C:)	📓 Lightning Works	2	20/12/2019 14:46	(	Configuration se	
🛖 sys ( ) (G:)	🖻 offlineMap	1	3/03/2020 13:11	F	NG File	
<b>±</b>						
Ŧ						
💣 Network						
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3 items 1 item selected 510 b	ytes					

- To restore the Client settings, copy the file named "clientConfig.XML" to the Lightning Works Client folder. If the file exists, you will be asked to confirm the file replacement.
- The restored settings will take effect when the Client software is next opened.

# 2.8 Completing the Update

The update process is now complete, and the Lightning Works software should now operate as before.