Using FileZilla FTP Server with a DT80 Series Logger

File Transfer Protocol (FTP) is used by the dataTaker DT80 range data loggers when pushing data to a file server. This server could be located remotely over a Wide Area Network (WAN) such as the internet, or locally over a Local Area Network (LAN). WAN FTP services are abundant and can be purchased for a low yearly rate depending on the amount of data you wish to send to the server. On the other hand if you want to host your data on a local computer then you need to install FTP server software.

FileZilla is an FTP server program intended to be installed on a PC running Windows. It will allow this PC to become a host to which any number of dataTaker data loggers can store their data. This document briefly describes the installation process and basic configuration of FileZilla and shows how to send data to that PC from any dataTaker DT80 range data logger.

1   Prerequisites

- TN0035 - Connecting a DT80 Range Logger to an Ethernet Modem

OR

- TN0036 - Connecting a DT80 Range Logger to a Local Area Network

2   Required Equipment

- *dataTaker* DT80 series data logger
- Host PC Running Windows (2000,XP or Vista) with a network/internet connection

3   Process

3.1   Obtain and set the static IP address for the server

The host computer/server requires a static IP address (one which will not change) instead of a dynamic, DHCP assigned IP address (one that changes with time). This is important because the dataTaker will attempt to send data to a single address so it must be consistent.

If you are connecting the dataTaker and PC to a LAN then you may need to consult your network administrator in order to obtain a static IP address so as to avoid conflicts with the dynamic ranges. If you do not have a network administrator then you will need to determine your own static IP address and check your router settings to ensure that your dynamic IP range does not include this IP address. Once a static IP address for the host PC can be established you will need to complete the steps shown in section 3.1.2 below.

If you are connecting the logger directly to the PC via a crossover cable then you can use the IP address "169.254.254.233", subnet mask "255.255.0.0" and gateway "0.0.0.0" and follow the steps in section 3.1.2 below.

NOTE: The following steps may affect the ability of the host PC connecting to other networks. Ensure that you use an IP address which does not conflict with any other network device connected to the PC (such as wireless).

3.1.1 Determine the Default Gateway and Subnet Mask

These steps can be skipped if the host PC and dataTaker are connected via an Ethernet Crossover cable, or if you already know your Default Gateway and Subnet Mask.

1. Click **Start**, Click **Run**
2. Type **CMD** into the text box and click **OK**
3. You will see a black DOS window appear, in this window type **IPCONFIG** and press **ENTER**
4. A response will be given including the IP address of the Local Area Connection, note down the **IP Address**, **Subnet Mask** and **Default Gateway**
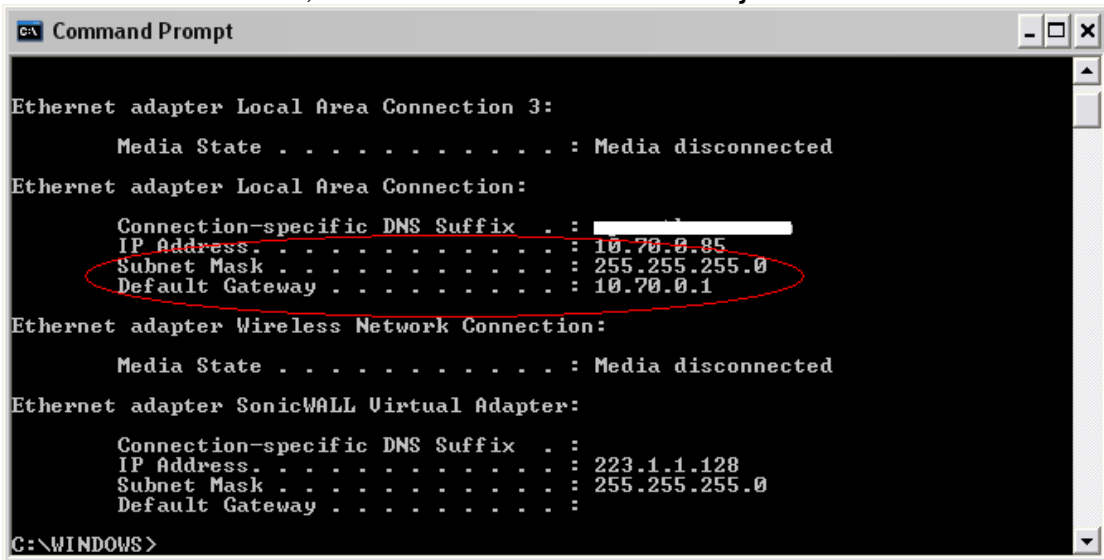
3.1.2 Changing the Network IP address settings

1. Click **Start**, click **Control Panel**, click **Network and Internet Connections**, and then click **Network Connections**.
2. Right-click the network connection to which the dataTaker is also connected, and then click **Properties**.
3. On the **General** tab, click **Internet Protocol (TCP/IP)** in the **This connection uses the following items** list, and then click **Properties**.
4. On the **General** tab, click **Use the following IP address**. Configure the entries as follows:
   o **IP Address**: The static IP address you chose for this server PC (for example, a direct connection to the dataTaker should use 169.254.254.233).
   o **Subnet Mask**: Use the subnet mask identified in 3.1.1 or 255.255.0.0 if you have a direct connection to the dataTaker.
   o **Default Gateway**: Use the default gateway identified in 3.1.1 or leave blank if you have a direct connection to the dataTaker.
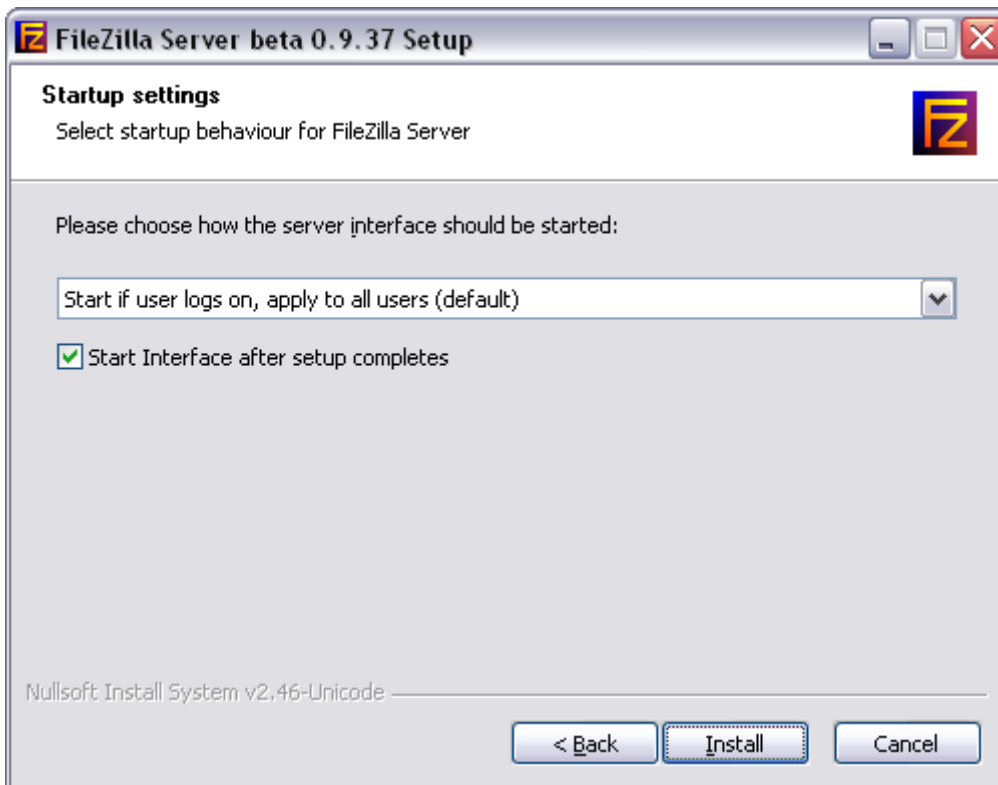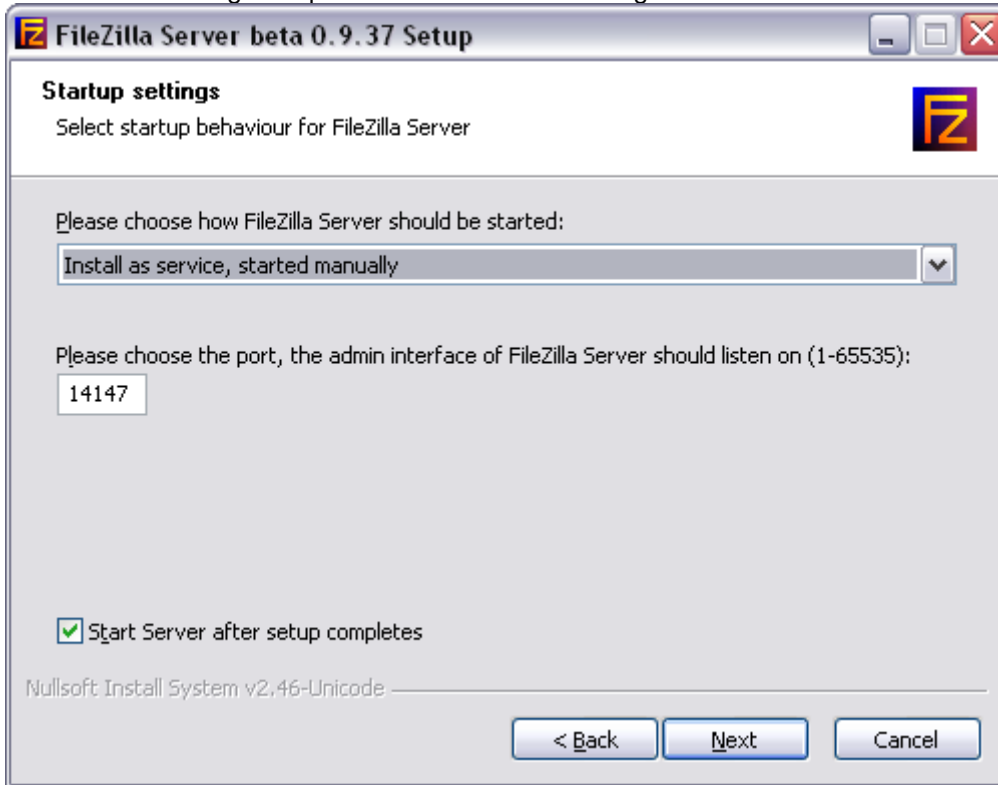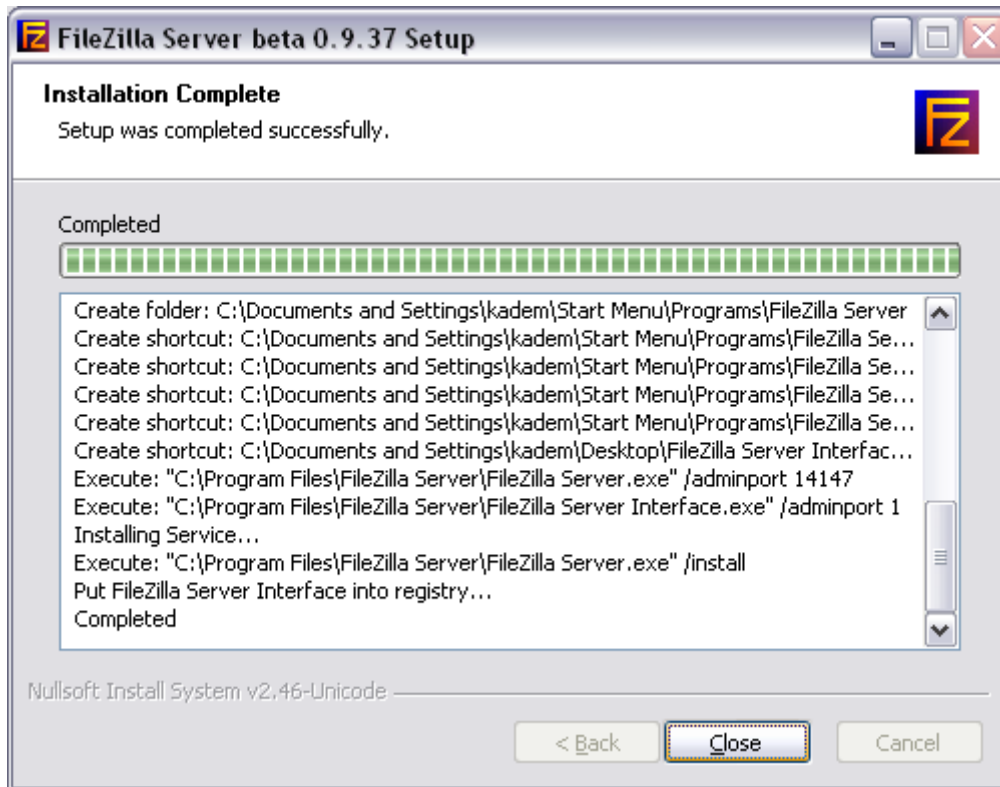5. Click **OK**.

3.2 Download FileZilla

- In your web browser go to http://filezilla-project.org/download.php?type=server
- Download/Save the recommended *Server* version (at the time that this document was written the file and version was "FileZilla_Server-0_9_37.exe")

3.3 Install FileZilla

- Run the executable file
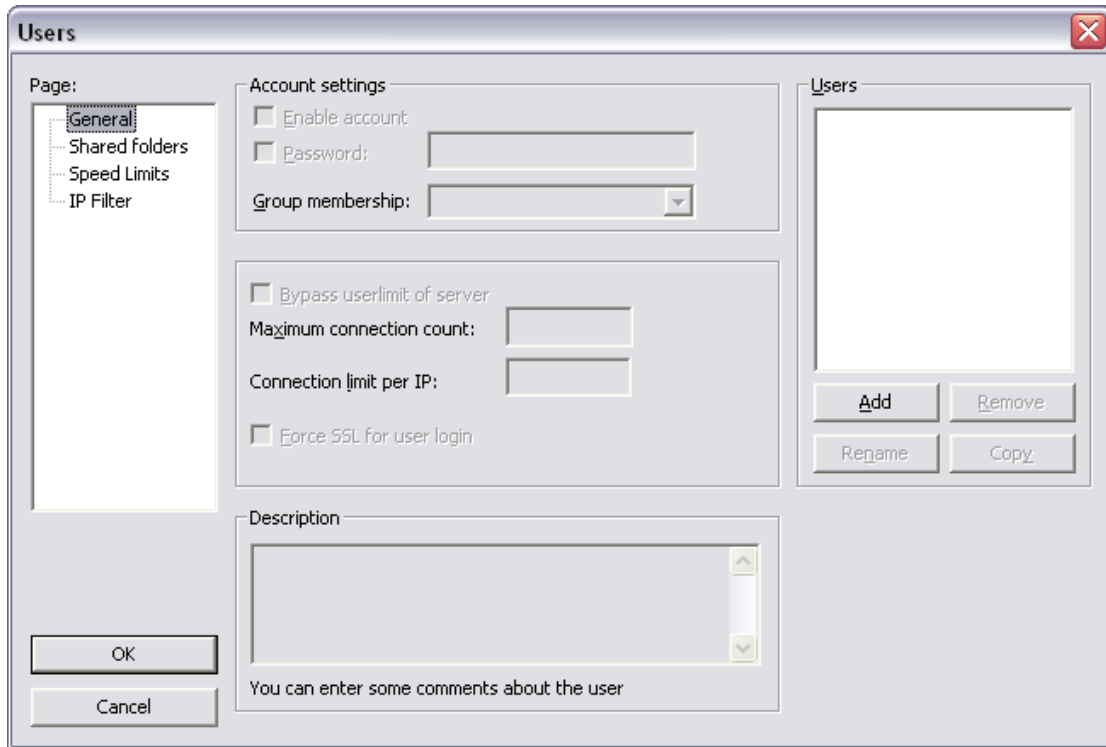- Install using the options shown in the following screenshots

- When the installation is complete click **Close**, the server will now start automatically

3.4 Configure FileZilla

- On the Connect to Server dialog use the address **127.0.0.1** and port **14147**, enter the password **admin**

- Click **OK**

- Click **Edit > Users**, the Users window will now appear

- Click the **Add** button in the *Users* group box to the right

- When the Add user account dialog appears, enter any username that you wish to use. In this example the user name is 'user1'.

- Ignore the group option

- Click **OK**.

- The username will now be shown in the list within the *Users* group box to the right.
- Click the **user name** in the list then click the **Password tick-box**
- Enter in a password for the user (this may be different to the administration password) into the password field.

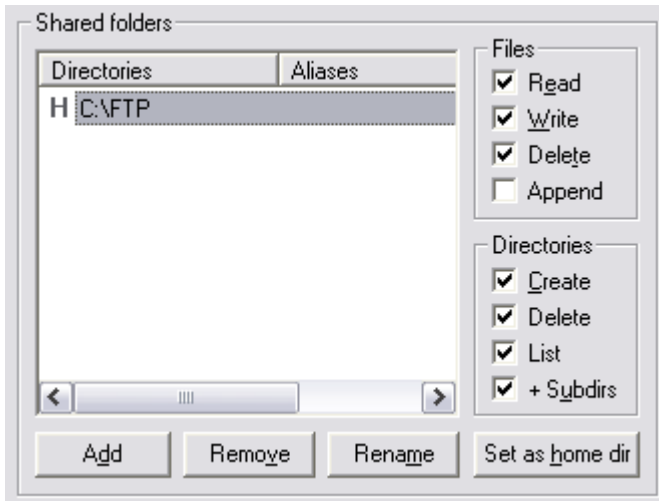- You should now have a screen that looks like this:
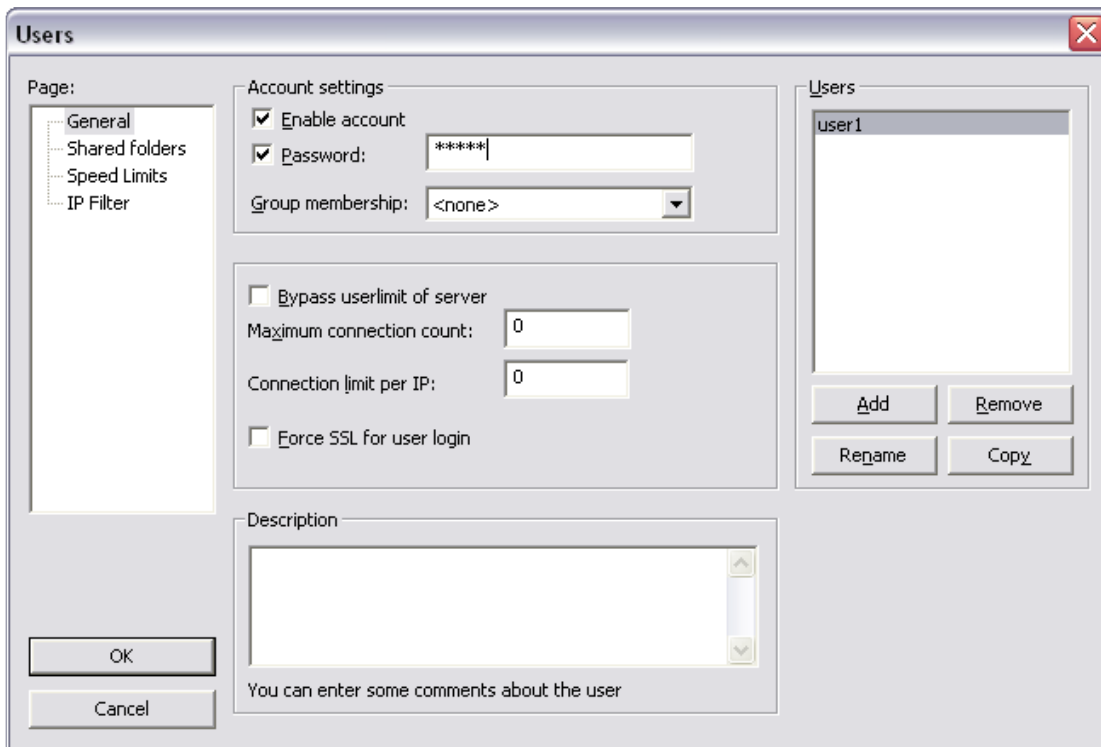
- Click **Shared folders** in the *Pages* list to the left of the window
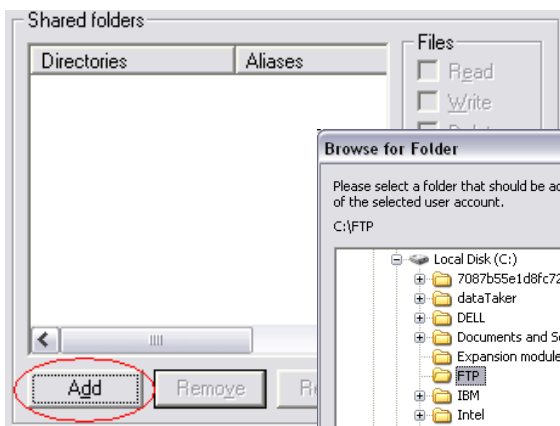
- Click the **Add** button under the Shared folders list

  - When the Browse for Folder dialog appears, select a folder on the host PC where you want to store the data being sent from the logger(s).

  - Click **OK**

- The shared folder will now appear in the list.

- With the shared folder selected, tick the boxes as shown on the left to set read/write permissions for the dataTaker.

- Click **Set as home dir**, you should see an '**H**' next to the folder name.

- Click **OK**

3.4.1 Testing the FileZilla FTP server on the PC

Your FileZilla server set up is now complete. To test this we will firstly use the same PC to ensure that the server software is working.

- Open an explorer window (**Start+E**)
- Type the address **ftp://127.0.0.1/** into the address bar as shown below.
- When prompted for a username and password, type in those you created earlier, in this case we have the username *user1* and password *password*.
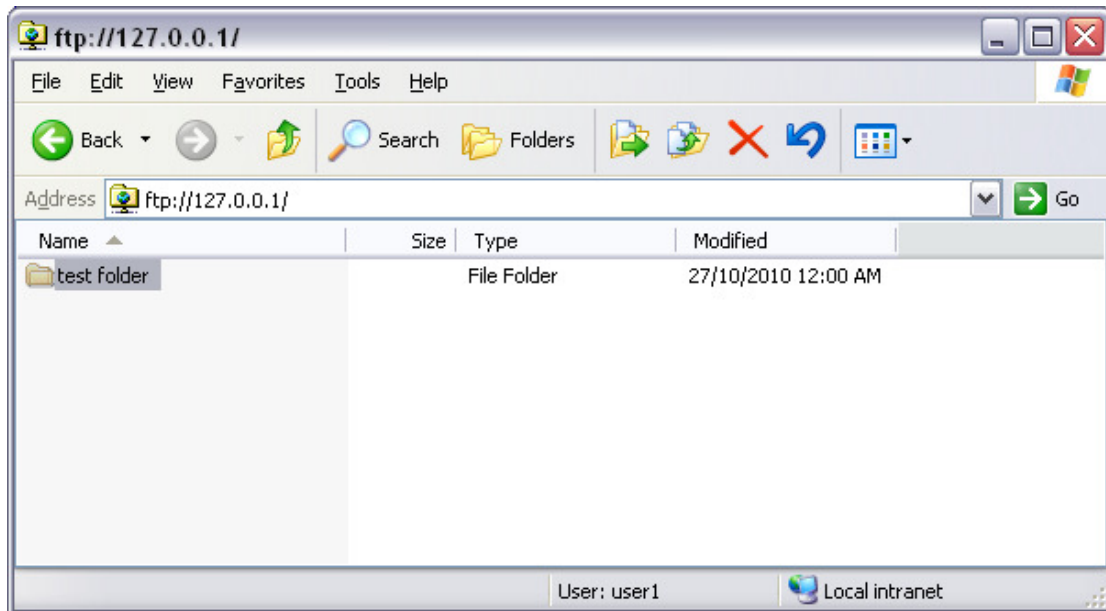
- You should now be shown a blank window, right-click in the blank space and click **New>Folder** and give the folder any name. This ensures that you have read/write permissions.

3.5 Configure the dataTaker

3.5.1 Configure the network on the dataTaker

Use the default Ethernet profile settings in the logger. To restore these settings you can use the *FACTORYDEFAULTS* command through a command window.

3.5.2 Manual data transfer

To copy data to your FileZilla server you will need to execute the following COPYD command:

```
COPYD dest=ftp://user1:password@server_ip_address/
```

Where:
user1 is the username created earlier for the FileZilla server
password is the password defined for the above user
server_ip_address is the IP address of the FileZilla server.

You can also specify a folder and/or filename to the end of the *dest* option, which will place the file in a different location which is useful for organising your data if you have more than one logger. e.g.
```
dest=ftp://user1:password@169.254.254.233/logger1/
```
or
```
dest=ftp://user1:password@169.254.254.233/logger2/datafile.csv
```

There are many options that can be used with the COPYD command, including data format (CSV or DBD), start and end times and many more. To see a list of these options and their functionality please see the dataTaker user manual.

3.5.3 Automatic data transfer

Automatic data transfer is useful when the logger needs to operate over a long period of time or when data needs to be transferred regularly to ensure adequate storage space on the logger.

To implement automatic data transfer on the logger you will need to use the same COPYD code as described in section 3.5.1 above, however it must be enclosed within a DO statement and placed into your dataTaker program. For example:

```
BEGIN"FTP_TEST"
     LOGON
RA1M
     VEXT("External Voltage")
RB12H
     DO{COPYD start=new dest=ftp://user1:password@169.254.254.233/}
END
```

This program will log the external supply voltage and unload this data to an FTP server every 12 hours. Each file will consist of only the new data and will have a dynamic filename generated by the logger.

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