

DM Series Networking Technical Specification For USB LAN Adapter

Guidelines for Support Personnel

This document is designed for technical support personnel in your organization responsible for determining how the business will connect the Ethernet enabled Digital Meter to your corporate LAN, and set up firewall access to the Internet. A separate document is available for the PC Meter Connect Desktop Application upon request. Because of the multitude of networks in use by our customers, Pitney Bowes cannot provide individual guidance with respect to each organization's infrastructure characteristics. We will however, provide all of the necessary information for each customer to provide a secure connection to the Pitney Bowes infrastructure for the services necessary to operate the Ethernet enabled Digital Meter in your secure network environment.

Meter Security Overview

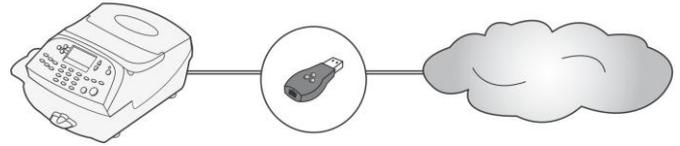
The PC Meter Connect desktop application, LAN adapter, and Digital Meter are certified as a system by ICSA Labs, an independent division of Verizon Business



offering vendor-neutral testing and certification of security products. Many of the world's top security vendors submit their products for testing and certification at ICSA Labs. Businesses rely on ICSA Labs to authoritatively set and apply objective testing and certification criteria for measuring product compliance and reliability. Visit

<http://www.icsalabs.com> to learn more or review our certification.

Networking Details using LAN Adapter



If you have decided to connect your meter to the Pitney Bowes Data Center using the LAN adapter, review the FAQs below to obtain answers to the most commonly asked questions applicable to meter models DM300/DM400/DM500/DM800i/DM900/DM1000

LAN Adaptor and Network Frequently Asked Questions (FAQs)

1. What are the network requirements for the meter using the LAN adapter?

- The System requires an Internet connection, accessed through a Wired LAN.
- The System supports 10/100 Ethernet transfer rates; Full Duplex.
- The System will initiate all communication.
- The System will initiate all communication via HTTP and Active Mode FTP.
- The System will communicate to external Web Services via HTTP using port 80.
- The System will communicate to PB data server via Active Mode FTP using outbound port 21.
- The System will use Port 53 for DNS lookup.

2. What type of FTP is used by the System “Active” or “Passive”?

The system will use FTP “Active” mode for all FTP communication.

- Firewall on “Active” FTP - what ports should be opened on server and client side? On server port 20 for data and port 21 for commands must be opened. On the client, ports > 1023 must be opened for successful FTP connection and transfer of files.

3. What access needs to be opened for my Firewall?

If unrestricted outbound access is not allowed in a particular organization, then Network access to Pitney Bowes’ servers is accomplished by allowing access to the domains listed in the table below. To avoid potential future firewall issues, it is highly recommended domains are used instead of ip addresses, because ip addresses have a tendency to change.

Note – Due to the secure nature of the transactional servers, they may not reply to ping or tracert requests.

URL	Domain or IP Address	Country	Protocol and Ports	Purpose
	165.87.13.129 (Primary) and 165.87.201.244 (Secondary)	[Australia, Canada, Japan, USA]	Outbound UDP on Port 53	DNS will utilize User Datagram Protocol (UDP) to resolve domains.
http://distserv1.pb.com/dstproduct.asp	distserv1.pb.com	All Countries, except India	Outbound HTTP on Port 80	Meter to Distributor Communication to obtain list of servers meter will establish communication with active session.
http://cometserv2.pitneybowes.com.au/t3cometserver_04.asp	cometserv2.pitneybowes.com.au	Australia	Outbound HTTP on Port 80 Note: "Chunked" Transfer Encoding must be allowed.	Meter to Comet Server communication to complete postal security device (PSD) audits, check your account balances, and to transfer funds from your Pbp account to the PSD.
http://pbdlsp1.pb.com/PrdUpdate.dll Note: If you have required access, clicking this URL should provide the following response from within your default browser: <?xml version="1.0" ?> - <FileUpdateResponse> <Msg>301</Msg> </FileUpdateResponse>	pbdlsp1.pb.com	All Countries, except India	Outbound HTTP on Port 80	Meter to Download Services global load balancer to Application Server communication used to send meter's configuration and determine whether updates are available. Updates include postal tariff changes, graphics (Ads, inscriptions), feature changes, and meter firmware updates.
http://pbdlsp1.pb.com/DLA/Service.svc	pbdlsp1.pb.com	All Countries, except India	Outbound HTTP on Port 80	Meter to Download Services Application Server communication used to send meter's configuration and determine whether updates are available. Updates include postal tariff changes, graphics (Ads, inscriptions), feature changes, and meter firmware.

	dlsdlp1T.pb.com dlsdlp1z.pb.com dlsdlp1.pb.com dlsdlp1b.pb.com	All Countries, except India	Unrestricted Active FTP Note: Reference FAQ 2 for additional Port details.	Meter to Download Services load balancer used to download customer's CCD/Order files, postal tariff changes, graphics (Ads, inscriptions), feature changes, and meter firmware updates.
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If IP Addresses **must** be used, Pitney Bowes recommends the firewall be set to allow unrestricted access to the full blocks of Pitney Bowes IP Addresses listed below.

IP Range	Comments
152.144.128.0 - 152.144.128.255	Applicable to Australia, Canada, Japan, USA
172.28.106.0 - 172.28.107.255	Applicable to Australia, Canada, Japan, USA
172.31.224.0 - 172.31.224.255	Applicable to Australia, Canada, Japan, USA
199.231.32.0 - 199.231.47.255	Applicable to Australia, Canada, Japan, USA
209.85.128.0 - 209.85.255.255	Applicable to Australia, Canada, Japan, USA

4. What type of communication does the meter use while connecting to the Pitney Bowes Data Center Servers?

The System uses (HTTP) on Port 80 and FTP on Port 21 for communications to Pitney Bowes Data Center Servers. Port 80 is used to communicate XML formatted messages requesting services.

5. Is the HTTP communication “Chunked” or “Non-Chunked”?

The System only supports “chunked” HTTP Transfer Encoding communication when connecting to Postage by Phone. Your network **must** allow this type of communication. The firewall/proxy and all components along the communication path need to allow empty client side chunking messages through on port 80. Our systems use HTTP 1.1 Chunked Transfer Encoding when we communicate with Postage by Phone. HTTP 1.1 Chunked Transfer Encoding allows HTTP messages to be broken up into several parts. Some network protection devices see this as an attack and block it. Chunked Transfer Encoding is a method in which only a portion (or chunk) of data is sent by the server in an HTTP/1.1 session. It is often used when a server knows that it will take a long time to complete a client's request, and so it sends only small chunks of data as the data is dynamically created.

6. Does the System use static and dynamic addressing?

Your System supports both dynamic (Table 1) and static (Table 2) IP addressing. The IP address is defaulted to automatic addressing from a DHCP Server. You can view and/or change the LAN IP settings using the meter menus described on page 5 and 6:

Table 1: Network Uses Dynamic IP Addresses

DM500/DM800i/DM900/ DM1000
1. Press the Menu key on the meter
2. Choose Set Up
3. Choose Phone/Network Set Up
4. Choose More Options (down arrow)
5. Choose Network Settings
6. Choose Mailing System Network Settings
7. Choose Get IP Address
8. Choose Get IP Address Automatically
9. Choose Exit Set Up

DM300/DM400
1. Press the Menu key on the meter
2. Choose Data Center Options
3. Choose Network Settings
4. Veirfy that Get IP is set to Auto
5. Press the Enter key
6. Press the Home key to return to the Mail Run Screen

Table 2: Network Uses Static IP Addresses

DM500/DM800i/DM900/ DM1000
1. Press the Menu key on the meter
2. Choose Set Up
3. Choose Phone/Network Set Up
4. Choose More Options (down arrow)
5. Choose Network Settings
6. Choose Mailing System Network Settings
7. Choose Get IP Address
8. Choose Specify and IP Address
9. Choose IP Address , press the Clear key and then enter the value determined by your network administrator. Press the Enter key to accept
10. Choose Subnet Mask , press the Clear key and then enter the value determined by your network administrator. Press the Enter key to accept
11. Choose Default Gateway , press the Clear key and then enter the value determined by your network administrator. Press the Enter key to accept
12. Choose Exit Set up

DM300/DM400
1. Press the Menu key
2. Choose Data Center Options
3. Choose Network Settings
4. Choose Get IP
5. Choose Specify Address Manually
6. Choose IP Addr , press the Clear key and then enter the value determined by your network administrator. Press the Enter key to accept
7. Choose Subnet , press the Clear key, and then enter the value determined by your network administrator. Press the Enter key to accept
8. Choose Gateway , press the Clear key and then enter the value determined by your network administrator. Press the Enter key to accept
9. Press the Enter key to save your changes
10. Press the Home key to return to the Mail Run Screen

Enabling Constant Connection

The meter comes with the LAN feature present, but this feature must be selected for use before it becomes active. Once Internet access has been enabled through the firewall by your IT representative, Constant Connection needs to be established by doing the following:

DM500/DM800i/DM900/ DM1000
1. Press the Menu key on the meter
2. Choose Set Up
3. Choose Phone/Network Set Up
4. Choose Modem Type
5. Choose Use LAN
6. Choose Ok, Restart Now

DM300/DM400
1. Press the Menu key
2. Choose Data Center Options
3. Choose Network Settings
4. Verify that Get IP is set to ' Auto '
5. Press the Down Arrow and verify that the MAC Addr field is populated. This indicates the Mail Machine's NIC Card is working.
6. Press the Enter key and then the Home key
7. The LAN should be setup to run now.
8. Attempt a Balance Inquiry to confirm it works.

Checking Connectivity

To check connectivity, you may perform a balance inquiry by following the steps below:

DM500/DM800i/DM900/ DM1000
1. Verify the Network Adapter LED is On or flickering
2. Press the Funds key
3. Choose Get Postage by Phone® Balance
4. The following should occur in quick succession
a. Display of Requesting Balance
b. Display of Processing
c. Display of Actual Balances
5. Press Done to Exit

DM300c through DM450c
1. Verify the Network Adapter LED is On or flickering
2. Press the Refill Postage key
3. Choose Check PBP Balance
4. The following should occur in quick succession
a. Display of Requesting Balance
b. Display of Processing
c. Display of Actual Balances
5. Press Continue to Exit