microframe®

SERIES 6500
Wi-Fi Timer Display
INSTALLATION and SPECIFICATION GUIDE

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Manual No. D6500-7010
Updated: 10/2019
Rev: 1.6

Limited Warranty Agreement
Your Microframe System is warranted against failure due to defects in workmanship or material for a period of one (1) year from the date of purchase. Microframe Corporation will repair or replace any defective unit. Obvious abuse or mishandling of the unit is NOT covered by this warranty.

Merchandise Return
If your Unit does not work satisfactorily, please give us a call. We may be able to clear up the problem by phone. If it becomes necessary to return your Unit to the factory, please observe the following:
1. Call Microframe for an RMA number. This will authorize you to return the unit.
2. Place Unit in a sturdy box with sufficient packing material.
3. If requested, include the AC power adapter. It is not necessary to return the cable and connectors unless they are the problem.
4. Return the system insured and prepaid. Microframe is not responsible for shipping damages and losses on returned Units.

Warranty Service
For warranty service, please contact Microframe toll-free at 800-635-3811. One of our technicians will be glad to assist you.

Assistance
For any product assistance or maintenance help, contact Microframe by either calling 800-635-3811 or e-mailing us at: support@microframecorp.com.

Safety
Do not install substitute parts or perform any modification to the product without first contacting Microframe.

Disclaimer
We constantly strive to improve our products. Specifications are subject to change without notice.

Warning
All power adapters, line cords, and electrical equipment should be kept out of the reach of children and away from water. (If you are installing cable in an air plenum area, such as a drop ceiling used for air return, you must use plenum-rated cable. The cable supplied from Microframe is rated CL2 and is approved for indoor installation everywhere except plenum areas.)

Life Support Policy
Microframe's products are not authorized for use as components in life support devices or systems without the express written approval of the President of Microframe Corporation. As used herein:
1. Life support devices or systems are defined as systems which support or sustain life, and whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury to the user or any one depending on the system.
2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

FCC Notice (for wireless products only)
Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
— Reorient or relocate the receiving antenna.
— Increase the separation between the equipment and receiver.
— Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
— Consult the dealer or an experienced radio/TV technician for help.

Series 6500
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Installation and Specification Guide

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INSTALL THE FREE APP NOW

Download on the App Store

GET IT ON Google Play

1.1 Wi-Fi Display Overview

The Wi-Fi Timer Display is a networked Wi-Fi display. Once the display has been configured, it will join your existing Wi-Fi network, allowing you to wirelessly start, stop, and monitor your timers from our free Android and Apple iOS apps for smart phones and tablets. Easily add as many displays as you would like and control them all at once, or on an individual basis.

1.2 Quick Install

Getting Started

The first step is to join your display to your Wi-Fi network. This can be done in two ways:
1) Configure the display from an Android/iOS app. [Section 2**.1**]
2) Configure the display from a computer. [Section 3**.1**]

Option 1: Quick Setup from app

1. Plug in the display.
2. Turn on your mobile device and connect to the Wi-Fi network "SoftAPxxxxxx".
3. Open the Microframe app on your mobile device.
4. Tap the icon "Display Settings" in the bottom right corner of the screen.
5. Tap the [>] button next to the display you want to setup.
6. Tap the [Display Setup] button.
7. Select the name of your Wi-Fi network from the list or type it in manually.
8. Type in the Wi-Fi password.
9. Optionally, set the display name and PIN number.
10. Press [Save], then wait 30 seconds for the display to connect.

Option 2: Quick Setup from computer

1. Plug in the display.
2. Connect the USB cable between the display and your computer.
3. Place the provided CD into your computer. (If you cannot find your CD, the software can be downloaded from www.microframecorp.com.) The install program should prompt you to run.
4. Once open, select the name of your Wi-Fi network from the list and type in the password.
5. Optionally, set the display name and PIN number.
6. Press [Save], then wait 30 seconds for the display to connect.

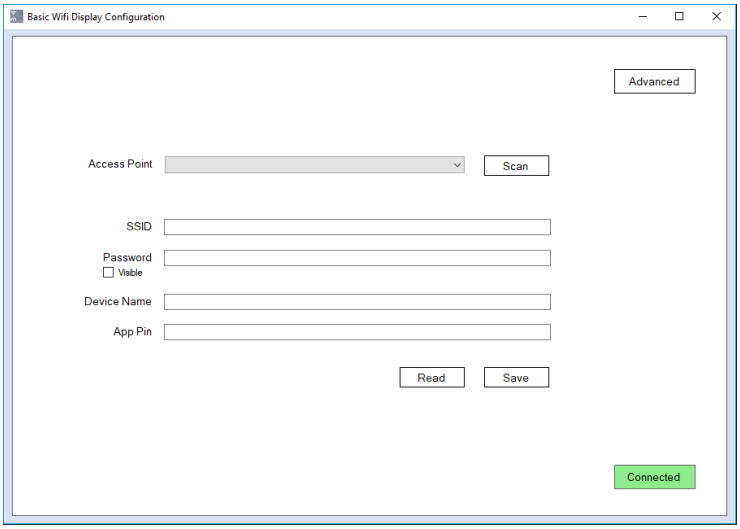
Mounting

Once the display is configured, simply hang it on the wall at your desired location and plug it into power.

Smart phone or device

The Wi-Fi Timer Display is unique in that it works with an iOS and Android app. From within the app you can configure your displays individually, and control timers on all the displays at the same time.

2.1 Wi-Fi Display Config Utility - Basic



Setup Order

1. Connect display to computer
2. Open Config Utility
3. Select network from list
4. Type in network password
5. (Optional) Set Device Name
6. (Recommended) Set App PIN
7. Click [SAVE]. The button will turn orange while connecting.
8. The button will turn red if failed, or green if successful.
9. You may now disconnect the display from the computer and mount it on a wall.

Summary

The Basic version of the Config Utility is intended to make it easy to setup a new display. For additional options, click the [Advanced] button. In order for this mode to work properly, the display must be in setup mode.

Details

The SSID and Password are used to connect to your network. If your network does not show up in the list, you can type it in manually under "SSID". If a password is entered, the utility will assume WPA/WPA2 security. If no password is entered, it will assume no security.

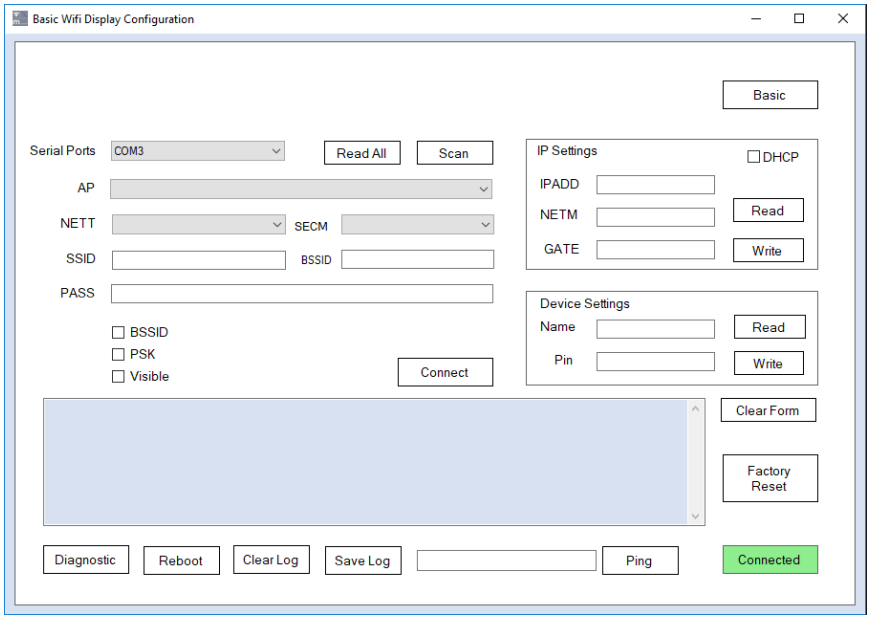
The Device Name is used in the app.

The app PIN must match the PIN number set on your mobile app. It is strongly recommended that you change this from the default of "0000" to prevent unauthorized users from accessing the display.

Re-enabling Setup Mode

To place the display back in Setup Mode, press and hold the Mode button. The display will start counting down "r5", r4", etc. When it gets to "RST", release the button. The display will reset to factory defaults and reboot automatically.

2.2 Wi-Fi Display Config Utility - Advanced



Setup Order
1) Power Disp
2) Open Prog
3) Find
4) Read All
5) Scan
6) Select AP
7) Password
8) [Connect]

Summary
The "Advanced" version of the Config Utility allows for configuration of all Wi-Fi settings. It can also be left running, and will log messages printed from the display. These messages are useful to have in case you should need Technical Support.

Utility Button and Field Details
[Serial] – Shows the currently connected serial port.

[Connected/Disconnected] - Automatically scans for devices and prints results to the log. It will select the device found last.

[Read All] - Reads back settings for all three panels of the utility. Optionally, you can read/write individual panels using their respective buttons.

[Scan] - In Setup Mode it reads back the pre-scan list. If connected to an Access Point, will do a new scan each time the button is clicked.

[SAVE] - Used to save settings if specific options are changed. Generally this will turn green if a save is required.

[AP] - A list of Access Points (Wi-Fi networks) in range of the display. If blank try clicking the [Scan] button. Stronger signals are indicated by a higher RSSI number. Selecting an entry from this list will automatically set [NETT], [SECM], [SSID], and [BSSID].

[NETT] - Network type. Generally set to Infrastructure.

[SECM] - Security mode. Options are "Open" and "WPA/WPA2". WEP is insecure and not supported. WPA-Personal mode is supported, but WPA-Enterprise mode is not.

[SSID] - The name of your organization's Wi-Fi network.

2.2 Wi-Fi Display Config Utility – Advanced continued…

[BSSID] - The identity of your AP, typically printed on the bottom of the router. Setting this and clicking the BSSID checkbox will force the display to always connect to this AP. For campus installations this can result in a more reliable connection, as the display will not roam between APs.

[PASS] - The password for your organization's network.

[PSK] - This allows the user to directly specify the 64-byte key used during the connection process. Once connected, the display will automatically convert the entered password into a PSK. This PSK can be read back from the display and used to setup other displays. The display connects much faster with a PSK. Thus, when setting up multiple displays, it is more efficient to type in the password once, wait for the connection to complete, read back the PSK, and then apply the PSK to additional displays.

[Connect] - Click this to apply the Wi-Fi Settings and connect to the new network. See the log to verify if the connection was successful.

[DHCP] - To specify a static IP address for this display, uncheck this box.

[IPADD] - The static IP address for this display. When read back, the current IP address.

[NETM] - The netmask for this display. When read back, the current netmask.

[GATE] -The gateway for this display. When read back, the current gateway.

[NAME] - The name of the device. This is used in the app.

[PIN] - The PIN used by the app to connect to this display.

[Basic] - Switch back to "Basic" Config Utility mode.

[DIAG] - Diagnostics information that is useful for Technical Support.

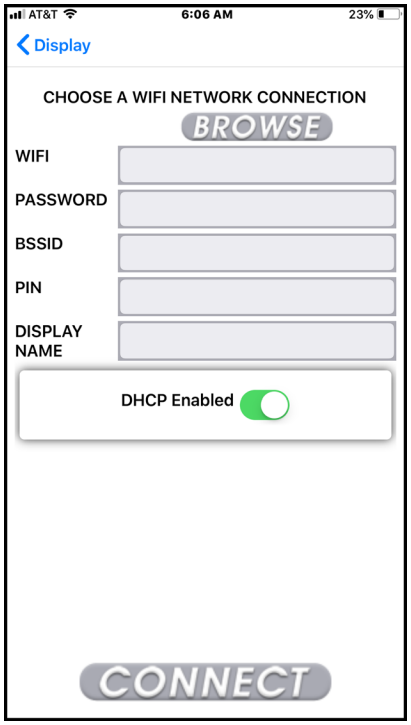
[Reboot] - Restarts the display. In Setup Mode, this also causes a new pre-scan to be loaded.

[Clear Log] - Clears the log.

[Save Log] - Saves the log to a text file. This is useful for Technical Support.

[PING] - Causes the display to PING a website or IP address. This is useful to verify network connection issues. Please note that the display has a built-in keep-alive service that pings the [GATE] address every minute.

3.1 Setting up the Display from the App



Display Setup
1. Plug in the Wi-Fi Timer Display
2. On mobile device, connect to Wi-Fi network "SoftAPxxxxxx"
3. Open the App
4. Tap [Display Settings] button
5. Tap [>] button next to the new display
6. Tap [Display Setup] button

Now you should see the screen to the right -->

7. Select a network from the list or type it in (Wi-FI SSID).
8. Type in Wi-Fi Password
9. (Optional) Set Display Network Name
10. (Recommended) Set Security PIN.
11. Tap [SAVE] button.
12. Close app and reconnect to your Wi-Fi network
13. Open app and verify display now shows up under "Displays".

Be sure to change the PIN if it is not default 0000.

Setup Buttons

[Wi-Fi SSID] - A list of the Wi-Fi networks in range.

[Wi-Fi Password] - The password for the network.

[Display Network Name] - This name is used to identify the display on the "Displays" page.

[Security Pin] - This must match the PIN setting for this display. See the "Displays" page.

[Save] - Press here to apply changes to the display and cause it to connect to the new network.

4.1 Installation / Operation / Options

Mounting the Display

The Wi-Fi Timer Display is designed with a keyhole in the back to hang on a wall like a picture frame. To use the display, simply plug the 24-volt AC power adapter wire into the back of the display and then plug the adapter into the wall (see wiring diagram pg 13), hang the display on a nail, you are done.

Model D6540 shown. Also available in 2, 3, and 6 digits.

Operation

The Wi-Fi Timer Display can act as a Time-of-Day Clock, a Timer, a Day Counter, and even Takt time.

Programmable Configurations

Behavior Settings

Operation
Determines the fundamental behavior of the display.

- Wall Clock
  Shows the current time or date
- Count Up
  Counts up by time or interval
- Countdown
  Counts down by time or interval
- Takt Timer
  Keeps track of Takt time

Clock Format
Allows the clock to show time in standard 12-hour format or in 24-hour military time.

Leading Zeros
Shows or hides the leading zeros for timers. Takt time modes always suppress the leading zeroes.

Time Server Sync
Syncs the Time-of-Day time with the time server selected. Time syncs every 10 minutes.

Time Server
Server address that the Time-of-Day time syncs with. By default this server is *pool.nist.gov*.

Clock Format
Allows the clock to show time in standard 12-hour format or in 24-hour military time.

Options Definitions continued…

Event Settings

On Zero
Determines what to do when the count down time / interval (2.1.2) reaches zero.

- Chime
  Chime at zero once or continuously.

- Reload & Stop
  Load the default countdown time

- Reload & Continue
  Load the default countdown time and continue counting down

- Count Up
  Start counting up from zero

- Flash Zero
  Flashes zero until a button is pressed

- Start Next Timer
  Start the next timer. Timer 1 starts Timer 2, Timer 2 starts Timer 1.

Chime Settings

Internal Chime Duration
Sets whether the internal chime sounds: none, once, or twice. The display comes standard with the internal chime.

External Chime Duration
Sets the duration of the external chime. This is actually an external "chime driver" circuit that may be purchased at the time of order. For AC loads (such as a doorbell), the triac option is recommended. For DC loads, the relay option is recommended.

Chime Time
The display can chime at six chime times when in clock mode. The display can chime at three chime times when in timer mode. In addition, the display can chime on zero. Timer 1 uses Chime times 1-3 and Timer 2 uses Chime times 4-6.

Input Settings

Button Debounce
Ignores noise on Inputs 1 & 2. During a single press, buttons can "bounce" many times. This results in additional button presses that the user did not intend. This option ignores the additional button bouncing.

Input Types
Defines the default state of the inputs: Normally Open or Normally Closed

- Normally open.
  Contact: doorbell
  Voltage: 0V

- Normally closed.
  Contact: N.C. relay
  Voltage: V.5

Options Definitions continued…

Input Settings continued…

Button State

- Momentary
  Expects a momentary contact closure at Inputs 1 and 2. For example: *a doorbell button*. Responds any time the input changes from open to closed.

- Change of State
  Expects a toggling closure at Inputs 1 and 2. For example: *an on/off switch*. Responds any time the input changes from open to closed or closed to open.

Display Settings

Smallest Type
Sets the smallest time unit that will be shown by the display, e.g., to have a 4-digit display show hours and minutes (never seconds). Set this value to “Minutes”.

Largest Type
Sets the largest time unit that will be shown by the display, e.g., to have a 4-digit display show hours and minutes (never Days). Set this value to “Hours”.

Display Size
This is the display's factory set number of digits. A four-digit display is indicated by a "4." This option lets the display know how much information it can show on the screen. Note that some input prompts can only display all of the information on a 6-digit display. Smaller displays will show only the right hand portion of the prompt.

5.1 Using the App

Timer/Clock Page
The display has 2 built in timers. You can start, stop, reset and change the times on Timer 1 or Timer 2 independently. The Timers can be count up or count down by tapping the correlating button on this page. When Timer 1 is in Count Down Mode you can select “Start Next Timer”. This option allows you to continuously count down, once Timer 1 is at 0 then Timer 2 will count down. Once Timer 2 counts down to 0 it will start Timer 1 again. In Count Down Mode you may also change the reload times for each timer. Simply click the reload time to change it. Clock Mode will show the time of day. Click [Set Time] to set the time on the display with the time of your smart device.

Takt Time Page
On this page you can see and set the time of each count, the counter that shows on the display. Also you will see the timer indicating how much time until the next count.

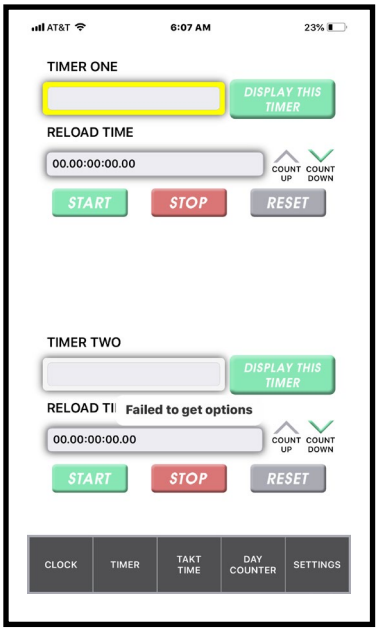
Day Counter Page
On this page you can change set how many days you want to count down, or what day you want to start the timer for count up.

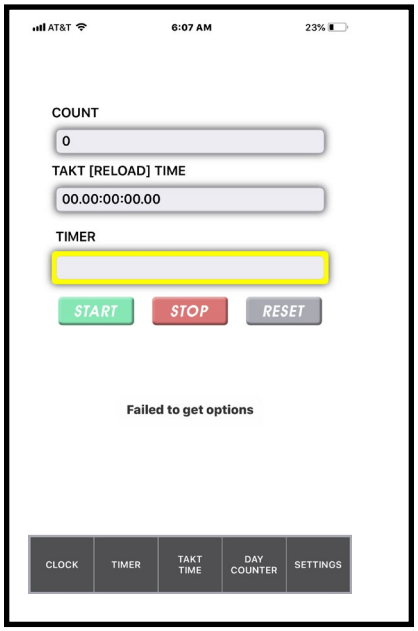
Displays Page
This page contains a list of all the Wi-Fi Timer Displays that the app finds on the network. This list shows the Name of the device. To edit a display, tap the “>” button next to the display in the list that you wish to edit. The Display Settings page allows you to do the following:

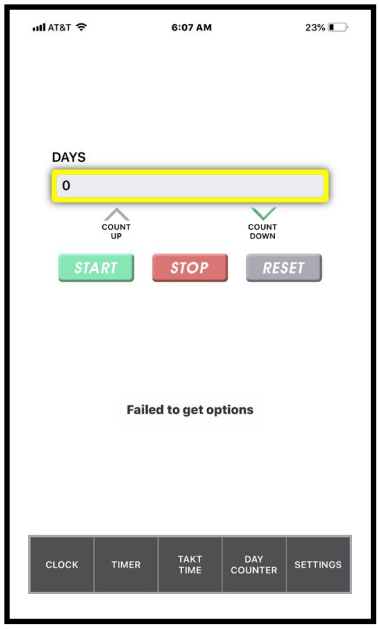
Active Check Box: When a display is active it will receive from this app. If you wish not to send to a certain display you can uncheck this box. The display will no longer receive numbers from this display.

PIN: When setting up the display you would have set a PIN number. To communicate with the display you will need to type in the correct PIN number here. If you didn't set this up originally, the default is 0000.

Display Settings: Refer to options on page 9.







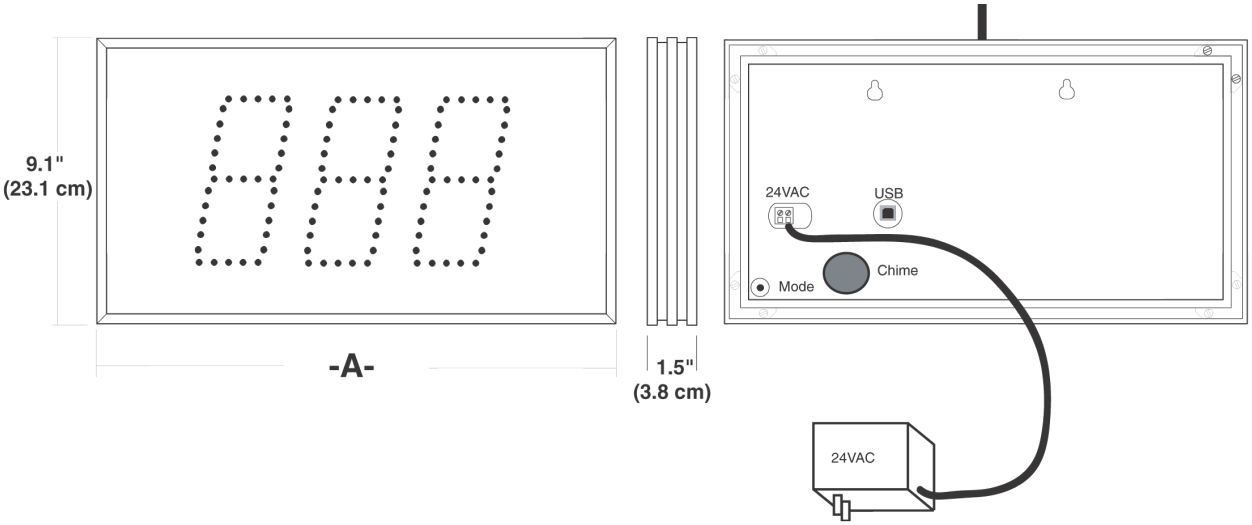
Model 6500 Timer Display Specifications

Features

The 6500 Series Timer Display is a Wi-Fi enabled timer available in 2, 3, 4 or 6 digits. The unit has Time of Day, Countdown/Count Up Timer, Day Counter, and Takt functions. The unit has a built in audio chime, as well as start/stop button inputs. The display is controlled using our free iOS and Android apps.

Box Contents

(1) D6500 Display, (1) 2.4 GHz Antenna
(1) 24VAC power adapter w/ 20ft of wire
(1) Manual, (1) Microframe Screwdriver
(1) Configuration CD, (1) USB A to B cable



Model 6500 Specifications				
Voltage Input Requirements……	14-24 VAC, 16-28VDC			
Character Height……	5.5 inches			
Character Viewing Distance……	125 feet			
Temperature Parameters……	-4ºF to 140ºF (-20ºC to 60ºC)			
Casing……	Aluminum extrusion			
Color……	Black frame with dark red acrylic faceplate			
Environment……	Indoor use (Outdoor case available)			
Wi-Fi……	802.11n			
Backup Battery Life…..……...	10 years			
Display Size	**2-Digit**	**3-Digit**	**4-Digit**	**6-Digit**
Power Requirements	3.4 watts	4 watts	5.1 watts	7.3 watts
Display Weight, w/o adapter	2.5 lbs (1.1 kg)	3.0 lbs (1.4 kg)	3.5 lbs (1.6 kg)	5.25 lbs (2.4 kg)
Width "A" Dimension	9.8" (24.9 cm)	13.2" (33.5 cm)	16.8" (42.7 cm)	24" (61.4 cm)

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