

INTRODUCTION

AutoCAD Electrical is a purpose-built controls design software. This software is used to create electrical schematic drawings and panel drawings. AutoCAD Electrical contains various schematic and panel symbols. These symbols, which are mostly the AutoCAD blocks with attributes, carry the intelligence of AutoCAD Electrical drawings. The standard symbol libraries such as JIC, IEC, JIS, and GB, which contain these symbols also get installed with the installation of AutoCAD Electrical. Besides all tools of AutoCAD software, AutoCAD Electrical also contains other electrical tools. You can use these tools for designing control systems speedily, economically, and accurately. As AutoCAD Electrical is compatible with AutoCAD, it is recommended to use the AutoCAD Electrical tools instead of AutoCAD tools when designing electrical circuits. However, AutoCAD Electrical drawings can be edited by using AutoCAD LT or AutoCAD. The all-inclusive symbol libraries and mechanized tasks help in increasing productivity and removing errors, and in providing exact information to the users.

INSTALLING AND CONFIGURING AutoCAD Electrical 2020

To install AutoCAD Electrical 2020, execute its setup; the **Setup Initialization** window will be displayed, as shown in Figure 1-1. After the setup is initialized, the **Autodesk AutoCAD Electrical 2020** wizard will be displayed. Next, perform the following steps to install AutoCAD Electrical 2020:

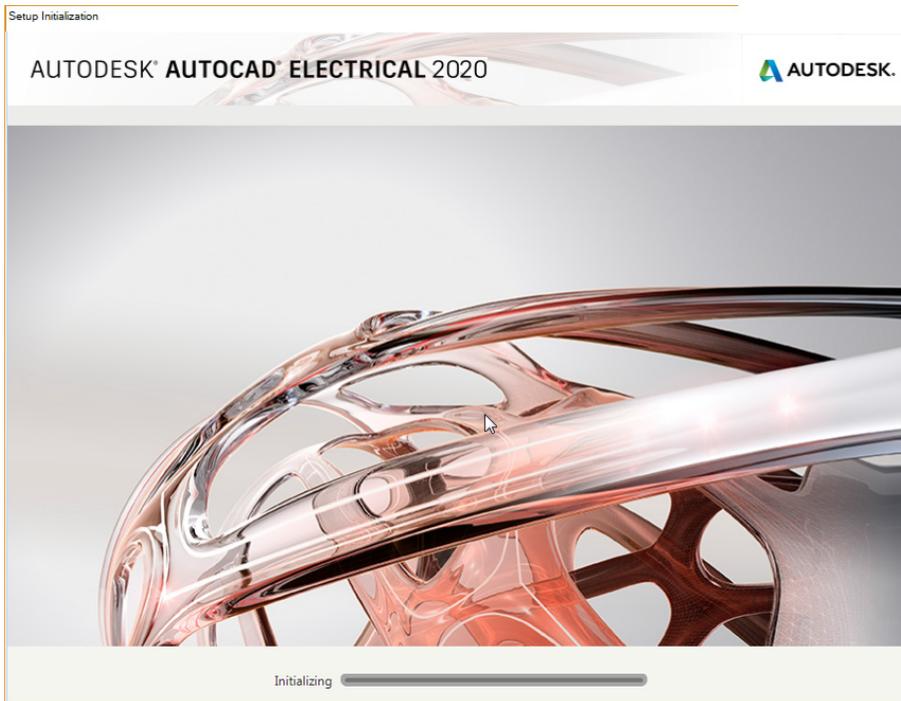


Figure 1-1 The Setup Initialization window

1. Choose **Install** from the **Autodesk AutoCAD Electrical 2020** wizard, refer to Figure 1-2; the **LICENSE AGREEMENT** page will be displayed.

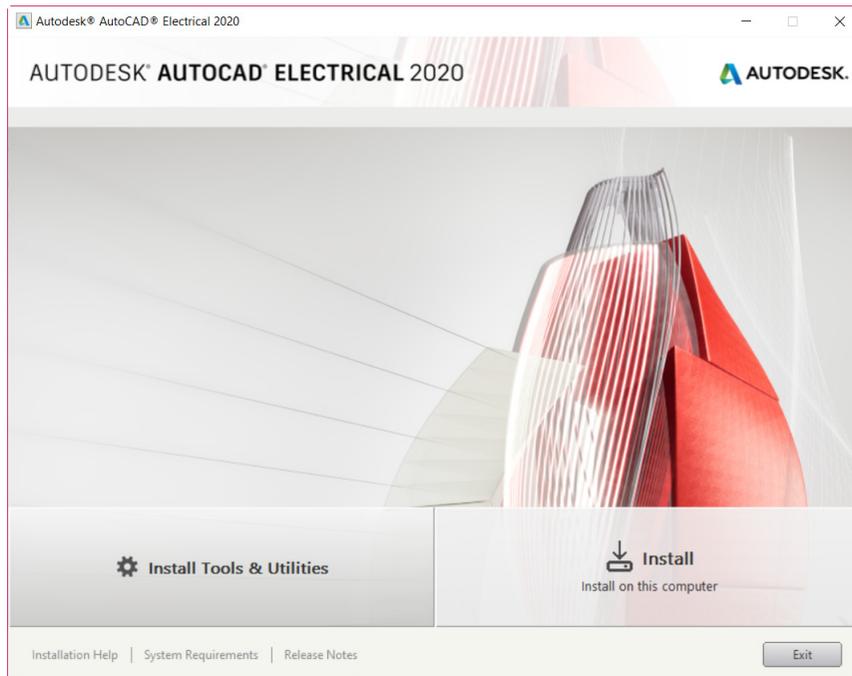


Figure 1-2 The Autodesk AutoCAD Electrical 2020 wizard

2. Select the **I Accept** radio button to accept the license agreement and choose the **Next** button; the **Product Information** page will be displayed and you will be prompted to specify the product and user information.
3. Specify the information in the **Product Information** page of the **Autodesk AutoCAD Electrical 2020** wizard. Next, choose the **Next** button; the **Configure Installation** page will be displayed.
4. Move the cursor below the **Autodesk AutoCAD Electrical 2020** text in this page, refer to Figure 1-3; the text below **Autodesk AutoCAD Electrical 2020** changes to **Click to open and configure** text, as shown in Figure 1-4.
5. Click on the down arrow on the left of the **Click to open and configure** text; a list of all manufacturers will be displayed and you will be prompted to select the manufacturer content to install.
6. Choose the **Select All** button to select entire manufacturer content from this list. Ensure that entire manufacturer contents are installed, so that you do not face any problems while working on tutorials and exercises given in this textbook.

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Figure 1-3 The Configure Installation page of the Autodesk AutoCAD Electrical 2020 wizard

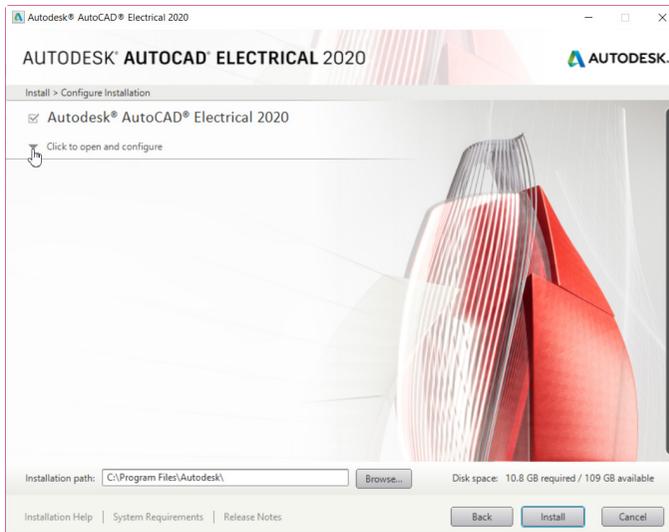
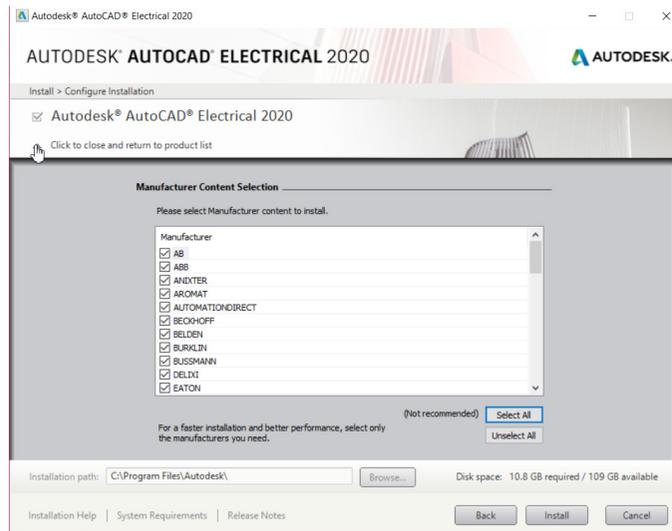
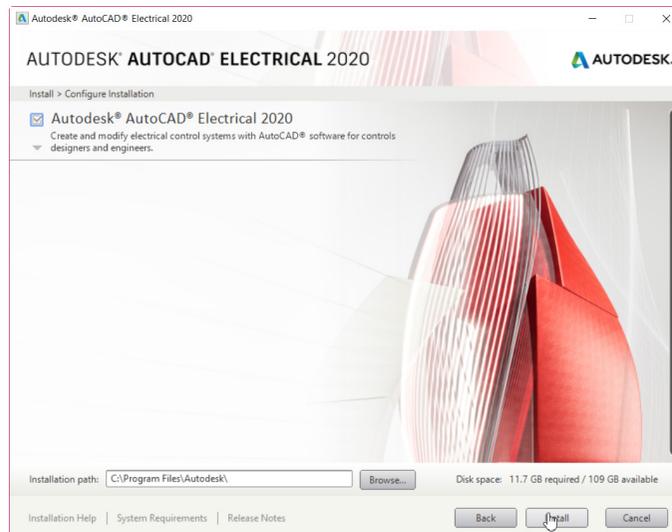


Figure 1-4 The text changed below Autodesk AutoCAD Electrical 2020 in the Configure Installation page

- Next, click on the upward arrow on the left of the **Click to close and return to product list** text to go back to the main page of the **Configure Installation** page, refer to Figure 1-5; the **Configure Installation** page will be modified, as shown in Figure 1-6.



*Figure 1-5 Clicking on the arrow on the left of the **Click to close and return to product list** text*



*Figure 1-6 The modified **Configure Installation** page of the Autodesk AutoCAD Electrical 2020 wizard*

- Choose the **Install** button in this page; the **Installation Progress** page will be displayed and AutoCAD Electrical 2020 will start installing components, as shown in Figure 1-7.



Figure 1-7 The Installation Progress page in the AutoCAD Electrical 2020 wizard

- Once the installation of components is finished, the **Installation Complete** page will be displayed showing you the products that are installed. Choose the **Finish** button in it to finish the installation process.



Note

It is recommended that you install entire manufacturer content so that you can easily create tutorials and exercises discussed in the forthcoming chapters in this textbook.

GETTING STARTED WITH AutoCAD Electrical 2020

You can start AutoCAD Electrical by double-clicking on its shortcut icon on the desktop of your computer. You can also load AutoCAD Electrical from the Windows taskbar by using the **Start** button at the bottom left corner of the screen (default position). To do so, choose the **Start** button to display a menu. Next, choose **AutoCAD Electrical 2020 - English** > **AutoCAD Electrical 2020 - English**, as shown in Figure 1-8; the AutoCAD Electrical 2020 interface along with the **Startup** dialog box will be displayed. In the dialog box, you can select the required drawing template. The startup interface of AutoCAD Electrical 2020 appears as per the template selected.

AutoCAD Electrical INTERFACE COMPONENTS

There are various components in the interface of AutoCAD Electrical including the drawing area, **Command window**, **Ribbon**, **Application Menu**, **menu bar**, **Tool Palettes**, **PROJECT MANAGER**, **Model** and **Layout** tabs, Application Status Bar, several toolbars, and so on, refer to Figure 1-9. A title bar containing AutoCAD Electrical symbol and the current drawing name is displayed on top of the screen. Also, the screen has the standard window buttons such as close, minimize, and maximize on the top right corner. These buttons have the same functions as any other standard window.

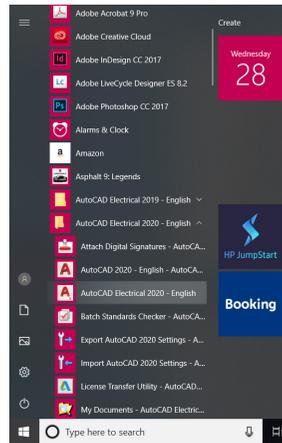


Figure 1-8 Starting AutoCAD Electrical 2020

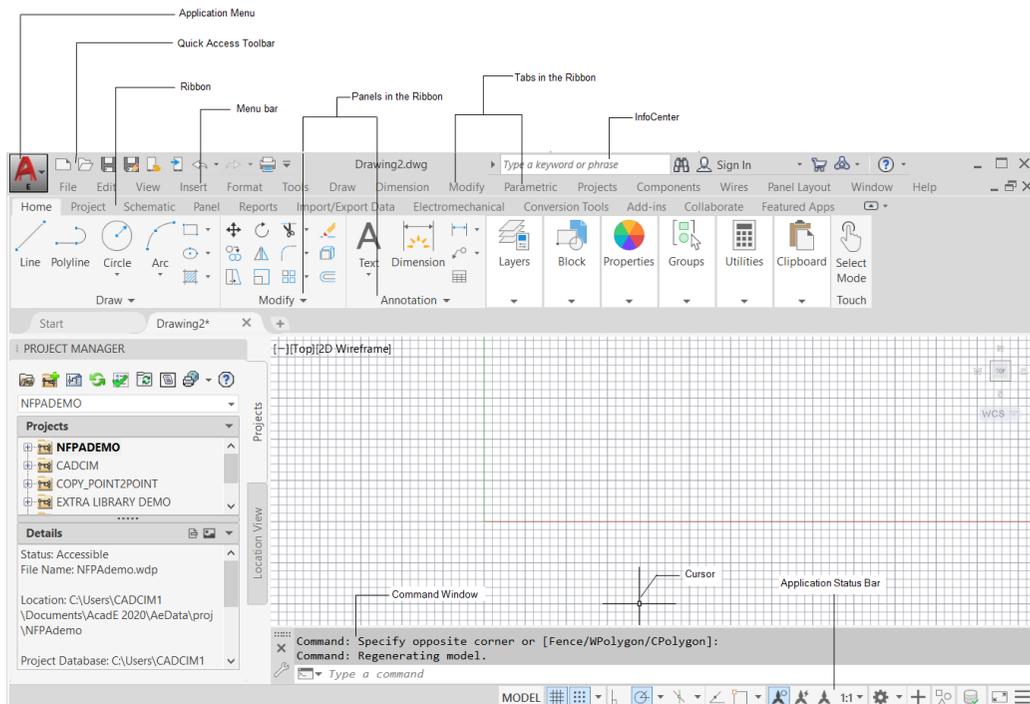


Figure 1-9 AutoCAD Electrical interface components

Start Tab

The **Start** tab is displayed in the AutoCAD Electrical environment when you close all the drawing templates or when there are no drawings open. The **Start** tab contains two sliding frames, **CREATE** and **LEARN**, refer to Figure 1-10. These frames are discussed next.

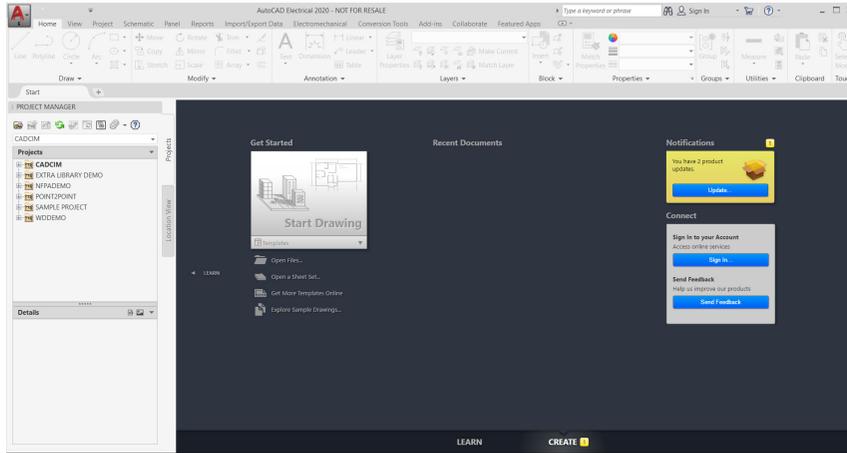


Figure 1-10 The **Start** tab in AutoCAD Electrical 2020 interface

CREATE

When you click on the **CREATE** sliding frame, the CREATE page will be displayed. In the CREATE page, you can access sample files, recent files, and templates. Using the links available on this page, you can connect with the online communities. The CREATE page is divided into three columns: **Get Started**, **Recent Documents**, and **Connect**.

LEARN

When you click on the **LEARN** sliding frame, the LEARN page will be displayed. The LEARN page provides tools to help you learn AutoCAD Electrical 2020. It is divided into three columns: **What's New**, **Essential Skills Videos**, **Learning Tips**, and **Online Resources**.

Drawing Area

The drawing area covers the major portion of the screen. In this area, you can draw objects and use commands. To draw objects, you need to define the coordinate points that can be selected by using the pointing device. The position of the pointing device is represented on the screen by the cursor. There is a coordinate system icon at the lower left corner of the drawing area.



Tip

You can hide all screen components such as toolbars, **PROJECT MANAGER**, and **Ribbon** displayed on the screen by pressing the **CTRL+0** keys or by choosing the **Clean Screen** option from the **View** menu. To turn on the display of the above mentioned screen components again, press the **CTRL+0** keys. Note that the **0** key on the numeric keypad of the keyboard cannot be used for the **Clean Screen** option.

Command Window

The command window at the bottom of the drawing area has the Command prompt where you can enter the required commands. It also displays subsequent prompt sequences and messages. You can change the size of the window and also view all the previously used commands by placing the cursor on the top edge (double line bar known as the grab bar) and then dragging it. You can also press the **F2** key to display **AutoCAD Text Window** which displays the previously used commands and prompts.

AutoCorrect the Command Name

If you type a wrong command name at the Command prompt, a suggestion list with most relevant commands will be displayed, refer to Figure 1-11. You can invoke the desired command by selecting the respective option from this list.

AutoComplete the Command Name

When you start typing a command name at the Command prompt, the complete name of the command will be displayed automatically. Also, a list of corresponding commands will be displayed, as shown in Figure 1-12. The commands that have not been used for a long time will be grouped in folders at the bottom of the list.

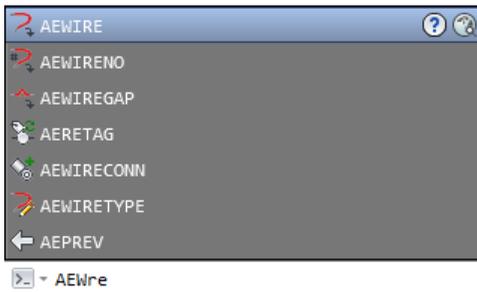


Figure 1-11 Suggestion list with relevant commands

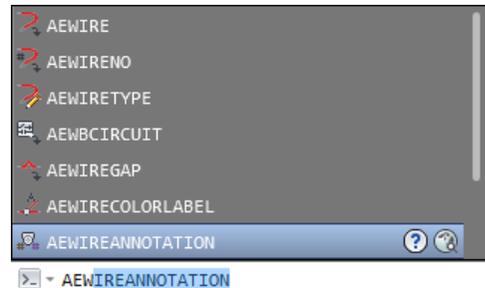


Figure 1-12 Command line displaying complete command name

Internet Search

You can get more information about a command by using the **Search in Help** and **Search on Internet** buttons available adjacent to the command name in the Command line, refer to Figure 1-13. If you choose the **Search in Help** button, the **AutoCAD Electrical 2020 - Help** window will be displayed. In this window, you can find information about the command. By using the **Search on Internet** button, you can find information about the command on the internet.

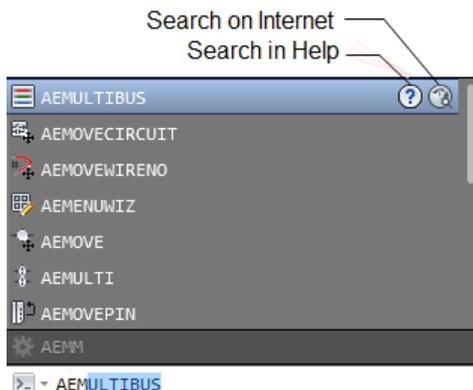


Figure 1-13 The Search in Help and Search on Internet buttons displayed in the suggestion list

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Input Search Options

In AutoCAD Electrical, you can enable or disable the functions such as AutoComplete and AutoCorrect by using the options available in the **Input Search Options** dialog box. To invoke this dialog box, right-click on the Command prompt; a shortcut menu will be displayed. Next, choose **Input Search Options** from the shortcut menu; the **Input Search Options** dialog box will be displayed, refer to Figure 1-14. Now, you can enable or disable the required functions by using this dialog box.

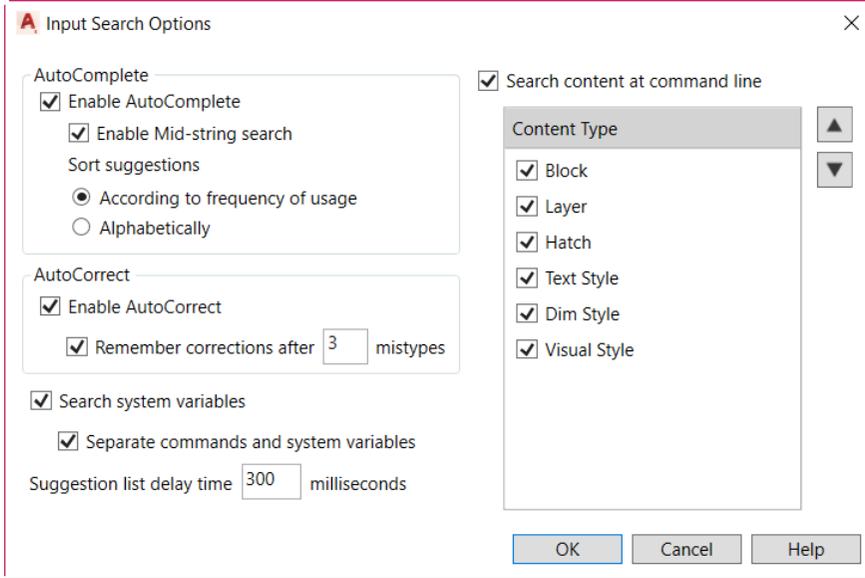


Figure 1-14 The Input Search Options dialog box

Application Status Bar

The Application Status Bar is displayed at the bottom of the screen, refer to Figure 1-15. It contains some useful information and buttons that help in changing the status of some AutoCAD and AutoCAD Electrical functions easily. You can toggle between on and off states of most of these buttons by choosing them. Some of these buttons are not available by default. To display/hide buttons in the Application Status Bar, choose the **Customization** button at the extreme bottom right corner of the Application Status Bar; a flyout will be displayed. Next, choose the desired options from this flyout. The most commonly used buttons in the Application Status Bar are discussed next.

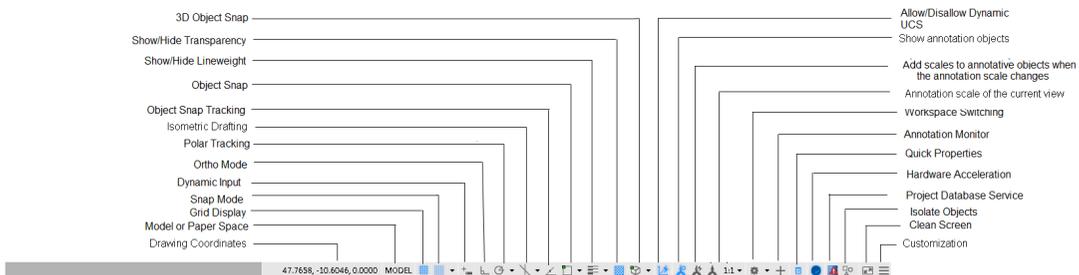


Figure 1-15 The Application Status Bar

Drawing Coordinates

The coordinate information is displayed on the left corner of the Application Status Bar. You can also choose the **Customization** button and then choose the **Coordinates** option from the flyout displayed to turn the coordinate display on and off.

Snap Mode



The snap mode allows you to move the cursor in fixed increments. If the snap mode is on, the **Snap Mode** button will be chosen in the Application Status Bar; otherwise, it will be deactivated. You can also use the F9 function key as a toggle key to turn the snap off or on.

Grid Display



The grid lines are used as reference lines to draw objects in AutoCAD Electrical. Choose the **Grid Display** button to display the grid lines on the screen. The F7 function key can be used to turn the grid display on or off.

Ortho Mode



If the **Ortho Mode** button is chosen in the Application Status Bar, you can draw lines at right angles only. You can use the F8 function key to turn the ortho mode on or off.

Polar Tracking



If you turn the polar tracking on, the movement of the cursor will be restricted along a path based on the angle set in the polar angle settings. Choosing the **Polar Tracking** button in the Application Status Bar turns the polar tracking on or off. You can also use the F10 function key to turn the polar tracking on or off. Note that turning the polar tracking on automatically turns off the ortho mode.

Object Snap



The **Object Snap** button is a toggle button and is used to turn object snap on or off. You can also use the F3 function key to turn the object snap on or off.

3D Object Snap



The **3D Object Snap** button is a toggle button and is used to turn 3D object snap on or off. You can also use the F4 function key to turn the 3D object snap on or off.

Object Snap Tracking



This button is used to turn the object snap tracking on or off. You can also use the F11 function key to turn the object snap tracking on or off.

Allow/Disallow Dynamic UCS



This button enables you to use the dynamic UCS. You can also use the F6 function key or CTRL + D keys to turn the dynamic UCS on or off.

Dynamic Input



The **Dynamic Input** button is used to turn the **Dynamic Input** mode on or off. You can also use the F12 function key to turn this mode on or off. Turning it on facilitates the heads-up design approach because all commands, prompts, and dimensional inputs will now be displayed in the drawing area and you do not need to look at the Command prompt all the time. This saves the design time and also increases the efficiency of the user. If the **Dynamic**

Input mode is turned on, you can enter commands through the **Pointer Input** boxes, and numerical values through the **Dimensional Input** boxes. Also, you can select the command options with the help of **Dynamic Prompt** options in the graphics window.

Show/Hide Lineweight



This button is used to turn the display of lineweights on or off in the drawing. If this button is not chosen, the display of lineweight will be turned off.

Show/Hide Transparency



This button is used to turn on or off the transparency of layers and objects.

Quick Properties



If you select a sketched entity and choose the **Quick Properties** button in the Application Status Bar, the properties of the selected entity will be displayed in a panel.

Model or Paper Space



This button is used to toggle between model space and paper space. The model space is used to work in a drawing area. Paper space is used to prepare your drawing for printing.

Show annotation objects



This button is used to control the visibility of the annotative objects that do not support the current annotation scale in the drawing area.

Add Scales to annotative objects when the annotative scale changes



This button, if chosen, automatically adds all the annotation scales that are set current to all the annotative objects present in the drawing.

Annotation Scale of the current view



This button controls the size and display of the annotative objects in the model space.

Workspace Switching



When you choose the **Workspace Switching** button, a flyout is displayed. This flyout contains predefined workspaces and options such as **Workspace Settings**, **Customize**, and so on. The options in this flyout will be discussed later in detail.

Customization



The **Customization** button is available at the lower right corner of the Application Status Bar and is used to add or remove buttons from the Application Status Bar.

Navigation Bar

In AutoCAD Electrical, the navigation tools are grouped together and are available in the drawing area, as shown in Figure 1-16. The tools in the **Navigation Bar** are discussed next.

Full Navigation Wheel

The **Full Navigation Wheel** has a set of navigation tools that can be used for panning, zooming, and so on.

Pan

This tool allows you to view the portion of the drawing that is outside the current display area. To do so, choose this button in the Application Status Bar, press and hold the left mouse button and then drag the drawing area. Press ESC to exit this command.

Zoom Extents

Choose one of the tools from the group to zoom the view of the drawing on the screen as per your requirement without affecting the actual size of the objects.

Orbit

This set of tools is used to rotate the view in 3D space.

ShowMotion

Choose this button to capture different views in a sequence and animate them when required.

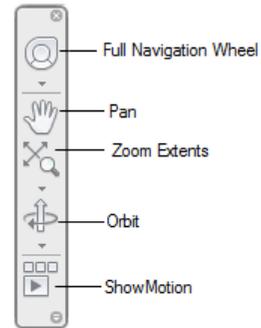


Figure 1-16 Tools in the Navigation Bar

Project Database Service

 The Project Database Service (PDS) updates the scratch project database automatically. It is also used to save all non-AutoCAD Electrical attributes from block files into the project. Also, if the drawing files of a project are not found in the respective folder, an error message will be displayed in the **Project Database Service** message box.

Units

 **Decimal** This button is used to display and control the units of drawing. It has a flyout that displays all the unit systems available for drawing.

Lock UI

 This button is used to dock/undock the toolbars, panels, and windows.

Clean Screen

 The **Clean Screen** button is located at the lower right corner of the screen. When you choose this button, all displayed toolbars, except the command window, Application Status Bar, and menu bar, disappear and the expanded view of the drawing is displayed. The expanded view of the drawing area can also be displayed by choosing **View > Clean Screen** from the **Menu Bar** or by using the CTRL+0 keys. Choose the **Clean Screen** button again to restore the previous display state.

INVOKING COMMANDS IN AutoCAD Electrical

When AutoCAD Electrical is started, you can invoke AutoCAD Electrical commands to perform any operation. For example, to draw a wire, first you need to invoke the **AEWIRE** command and then define the start point and endpoint of the wire. Similarly, if you want to trim wires, you must invoke the **AETRIM** command and then select wires for trimming. AutoCAD Electrical provides the following options to invoke a command:

Keyboard
Marking Menu

Ribbon
Shortcut menu

Application Menu
Menu Bar

Toolbar
Tool Palettes

Keyboard

You can invoke any AutoCAD Electrical command from the keyboard by entering the name of the command at the Command prompt and then pressing the ENTER key. If the **Dynamic Input** mode is on and the cursor is in the drawing area, by default the command will be entered through the **Pointer Input** box. The **Pointer Input** box is a small box displayed on the right of the cursor, as shown in Figure 1-17.

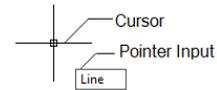


Figure 1-17 The Pointer Input box displayed

However, if the cursor is currently placed on any toolbar or menu bar, or if the **Dynamic Input** mode is turned off, the command will be entered through the Command prompt. Before you enter a command, the Command prompt is displayed as the last line in the command window area. If it is not displayed, you must cancel the existing command by pressing the ESC key. The following example shows how to invoke the **AEWIRE** command using the keyboard:

Command: **AEWIRE** 

Ribbon

Most of the commands used for creating, modifying, and annotating components are available in the **Ribbon**, as shown in Figure 1-18.



Figure 1-18 The Ribbon for the ACADE & 2D Drafting & Annotation workspace

When you start AutoCAD Electrical session for the first time, by default the **Ribbon** is displayed horizontally below the **Quick Access Toolbar**. The **Ribbon** consists of various tabs. These tabs have different panels, which in turn, have tools arranged in rows. Some of the panels and tools have a small black down arrow. This indicates that the corresponding panels and tools have some more buttons in the form of drop-down. Click on this down arrow to access the hidden tools. If you choose a tool from the drop-down, the corresponding command will be invoked and the tool chosen will be displayed in the panel. For example, to move components using the **Move Component** option, click on the down arrow next to the **Scout** tool in the **Edit Components** panel of the **Schematic** tab; a drop-down will be displayed. Choose the **Move Component** tool from the drop-down and move components. Choose the down arrow to expand the panel. You will notice that a push pin is available at the left end of the panel. Click on the push pin to keep the panel in the expanded state.

You can reorder panels in a tab. To do so, press and hold the left mouse button on the panel to be moved and then drag it to the required position. To undock the **Ribbon**, right-click on the blank space in the **Ribbon** and choose the **Undock** option from the shortcut menu displayed. You can move, resize, anchor, and auto-hide the **Ribbon** using the shortcut menu that will be displayed when you right-click on the heading strip. To anchor the floating **Ribbon** vertically to the left or right of the drawing area, right-click on its heading strip; a shortcut menu will be displayed. Choose the corresponding option from this shortcut menu. The **Auto-hide** toggle button on the right of the **Express Tools** tab will hide the **Ribbon** into the heading strip and will display it only when you move the cursor over this strip.

You can customize the display of tabs and panels in the **Ribbon**. To do so, right-click on any one of the buttons in the **Ribbon**; a shortcut menu will be displayed. On moving the cursor over one of the options in the shortcut menu, a cascading menu will be displayed with a tick mark before all options indicating that the corresponding tab or panel will be displayed in the **Ribbon**. Select/clear the appropriate option to display/hide a particular tab or panel.

Application Menu

You can invoke various commands from the **Application Menu**. To do so, choose the **Application** button available at the top left corner of the AutoCAD Electrical window; the **Application Menu** will be displayed, refer to Figure 1-19.

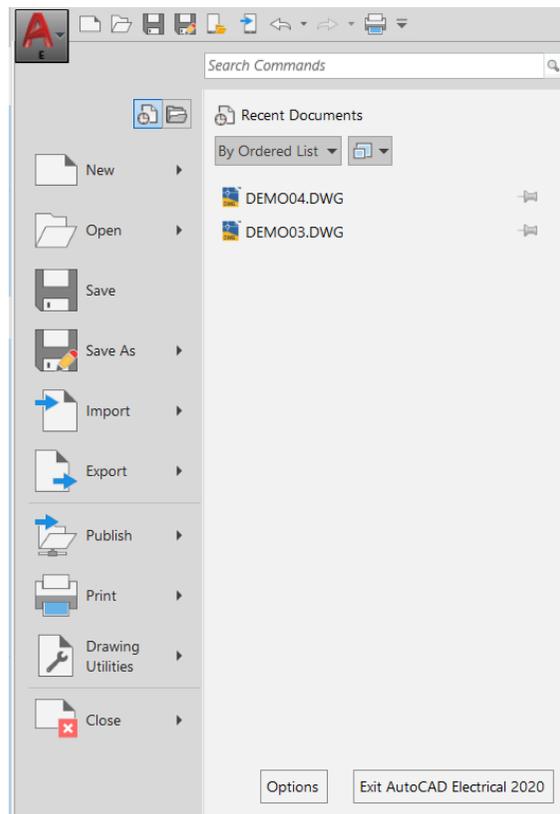


Figure 1-19 The Application Menu

You can search for a command using the search field on the top of the **Application Menu**. To search for a command, enter the complete or partial name of the command in the search field; a list displaying all possible commands will be displayed. If you click on a command from the list, the corresponding command will get activated.

By default, the **Recent Documents** button is chosen in the **Application Menu**. As a result, the recently opened drawings will be listed. If you have opened multiple drawing files, choose the **Open Documents** button; the documents that are opened will be listed in the **Application Menu**. To set the preferences of the file, choose the **Options** button available at the bottom of the **Application Menu**. To exit AutoCAD Electrical, choose the **Exit AutoCAD Electrical** button next to the **Options** button. 

Menu Bar

You can also select commands from the menu bar. Menu bar is not displayed by default. To invoke the menu bar, choose the down arrow in the **Quick Access Toolbar**; a flyout will be displayed. Choose the **Show Menu Bar** option from the flyout; the menu bar will be displayed. As you move the cursor over the menu bar, different titles will be highlighted. You can choose the desired item from the menu bar by clicking on it. Once the item is chosen, the corresponding menu will be displayed directly under the title. Some of the menu items display an arrow on their right indicating that they have a cascading menu. The cascading menu provides various options to execute AutoCAD Electrical commands. You can display the cascading menu by choosing the menu item or by moving the arrow pointer to the right of that item. You can then choose any item from the cascading menu by clicking on it. For example, to insert a ladder, choose **Wires** from the menu bar and then choose the **Ladders** option; a cascading menu will be displayed, as shown in Figure 1-20. From the cascading menu, choose the **Insert Ladder** option.

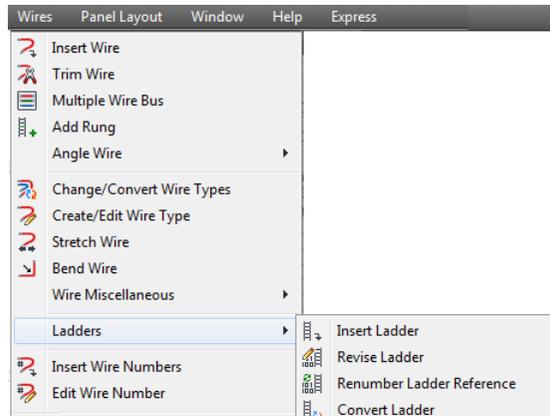


Figure 1-20 The cascading menu

Toolbar

Toolbars are not displayed by default. To display a toolbar, first invoke the menu bar and then choose **Tools > Toolbars > ELECTRICAL** from it; the list of toolbars will be displayed. Select the required toolbar. In a toolbar, a set of tools representing various AutoCAD Electrical commands are grouped together. When you move the cursor over a tool in a toolbar, the tool will be lifted. The tooltip (name of the tool) and a brief description related to that tool will also be displayed below the tool. Once you locate the desired tool, the command associated with it can be invoked

by choosing it. For example, you can invoke the **AEWIRE** command by choosing the **Insert Wire** tool from the **ACE:Main Electrical** toolbar.

Some of the tools in a toolbar have a small triangular arrow at its lower right corner. This arrow indicates that the tool has a flyout attached to it. If you hold cursor on the triangular arrow button, a flyout containing the options for the command will be displayed, as shown in Figure 1-21. Choose the desired option from the toolbar; a command will be displayed in the command window. The **ACE:Main Electrical** and **ACE:Panel Layout** toolbars are shown in Figures 1-22 and 1-23, respectively.

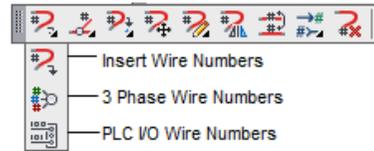


Figure 1-21 The flyout

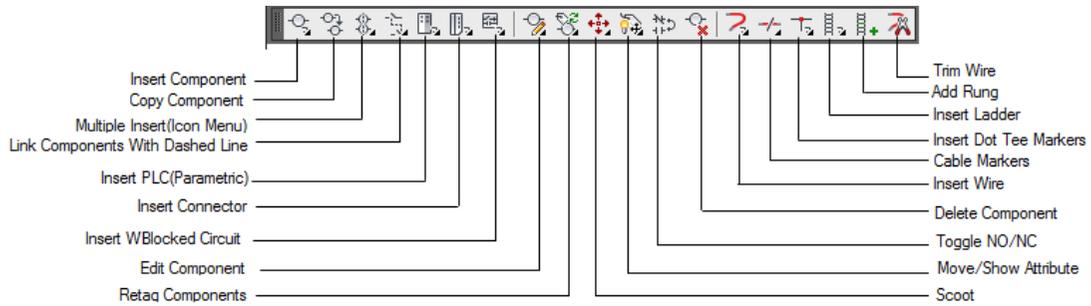


Figure 1-22 The ACE:Main Electrical toolbar

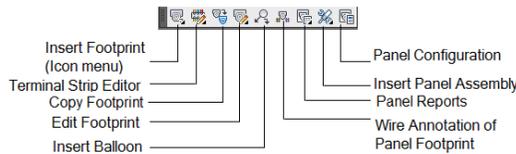


Figure 1-23 The ACE:Panel Layout toolbar

Moving and Resizing Toolbars

Toolbars can be moved anywhere on the screen by placing the cursor on the strip and then dragging it to the desired location. You must hold the cursor down while dragging. While moving toolbars, you can dock them to the top or sides of the screen by dropping them in the docking area. You can prevent docking toolbars, as and when needed, by holding the CTRL key while moving the toolbar to a desired location. You can also change the size of toolbars by placing the cursor anywhere on the border of the toolbar where it takes the shape of a double-sided arrow, as shown in Figure 1-24, and then pulling it in the required direction, as shown in Figure 1-25. You can also customize toolbars to meet your requirements.



Figure 1-24 Resizing the ACE:Main Electrical toolbar



Figure 1-25 The ACE:Main Electrical toolbar resized

Marking Menu

AutoCAD Electrical provides you with marking menus which are displayed on right-clicking on an AutoCAD Electrical Object. By using the marking menus, you can easily invoke the commands, if the toolbar is not displayed in the drawing area. These marking menus are context-sensitive, which means that the commands or tools in this menu will be displayed based on the object selected. Figure 1-26 shows a marking menu that is displayed on right-clicking on a component and Figure 1-27 shows a marking menu that is displayed on right-clicking on a wire. Figure 1-28 shows a marking menu that is displayed on right-clicking on a footprint. There are two basic modes for command selection: Menu mode and Mark mode. These modes are discussed next.

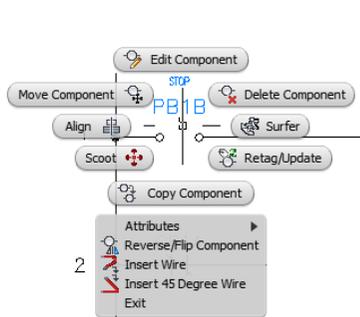


Figure 1-26 The marking menu displayed on right-clicking on a component

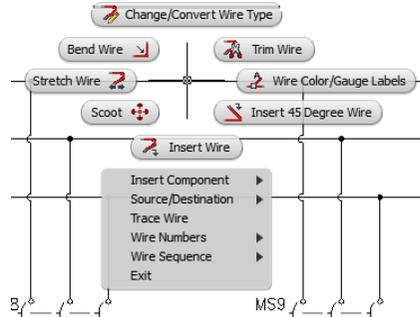


Figure 1-27 The marking menu displayed on right-clicking on a wire

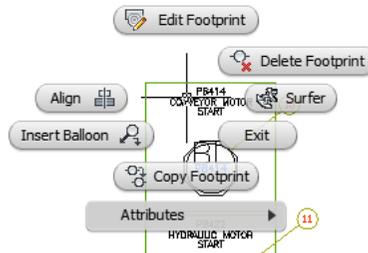


Figure 1-28 The marking menu displayed on right-clicking on a footprint

Menu Mode

You can invoke the Menu mode by right-clicking on an object. When you invoke this mode, a marking menu will be displayed, showing the commands related to that object. Move the cursor over the command to be executed and click on it; the selected command will be executed. To exit the marking menu, click at the center of the menu or click anywhere outside the menu. If you press the ESC key, the command in progress will be cancelled.

Mark Mode

Mark mode is similar to Menu mode. The only difference between them is that in this mode, you need to immediately move the cursor along the direction of the desired command after right-clicking on the component. On doing so, a rubber band line connected with the cursor is displayed. Release the mouse button on the command to be executed.

Shortcut Menu

If you right-click in the drawing area, the AutoCAD shortcut menu will be displayed. This shortcut menu contains the commonly used commands of Windows and an option to select the previously invoked commands again, as shown in Figure 1-29. If you right-click in the drawing area while a command is active, a shortcut menu will be displayed containing the options of that particular command. Figure 1-30 shows the shortcut menu displayed while the **AEWIRE** command is active.

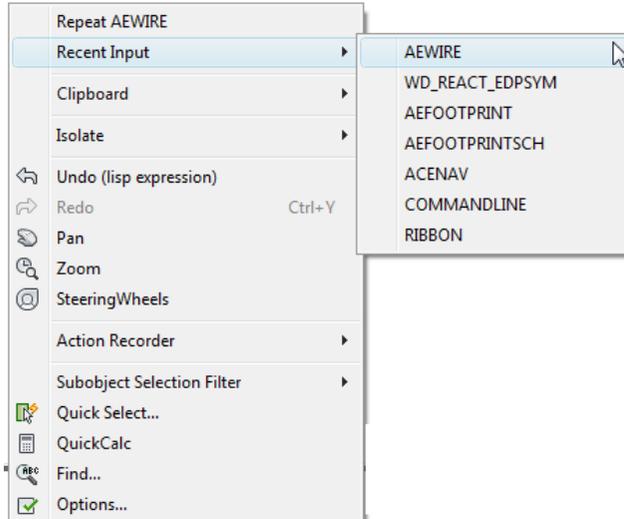
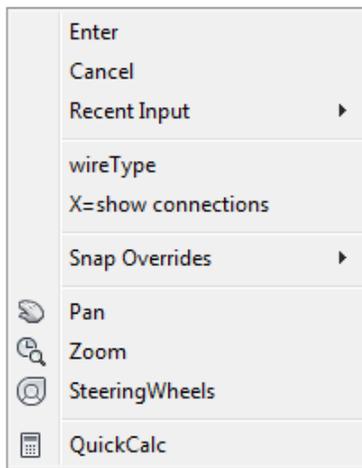


Figure 1-29 The shortcut menu showing the recently used commands

When you right-click on the command window, a shortcut menu will be displayed. This shortcut menu displays the six most recently used commands and some of the window options like **Copy** and **Paste**, as shown in Figure 1-31.



*Figure 1-30 The shortcut menu displayed on right-clicking in the drawing area with the **AEWIRE** command active*

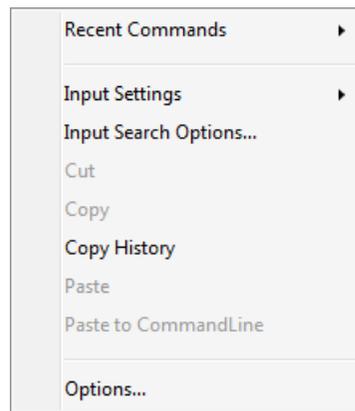


Figure 1-31 Command window shortcut menu

The commands and their prompt entries are displayed in the History window (previous command lines not visible) and can be selected, copied, and pasted in the command line using the shortcut menu. As you press the up arrow key, the previously entered commands will be displayed in the command window. Once the desired command is displayed at the Command prompt, you can execute it by simply pressing the ENTER key.

When you right-click in the coordinate display area of the Status Bar, a shortcut menu will be displayed. This shortcut menu contains options to modify the display of coordinates, refer to Figure 1-32. You can also right-click on any of the toolbars to display a shortcut menu from where you can choose any toolbar to be displayed.

Relative
Absolute
Geographic
Specific

Figure 1-32 The shortcut menu displayed

Tool Palettes

The **Tool Palettes**, as shown in Figure 1-33, is an easy and convenient way of placing components in the current drawing. By default, the **Tool Palettes** is not displayed. To invoke the **Tool Palettes**, choose **Tools > Palettes > Tool Palettes** from the menu bar or choose the CTRL+3 keys to display the **Tool Palettes** as a window on the left of the drawing area. You can resize the **Tool Palettes** by using the resizing cursor that is displayed when you place the cursor on the top or bottom of the **Tool Palettes**. The **Tool Palettes** contains different commands for inserting components in Imperial and Metric units. When you move the **Tool Palettes** in the drawing area and right-click on its title bar, a shortcut menu is displayed, as shown in Figure 1-34. Using this shortcut menu, you can turn on or off the **Tool Palettes**. Also, you can move, change size, close, auto-hide, and dock the **Tool Palettes**. Also, you can create new palette, rename it, and customize palettes and commands by choosing the desired option from the shortcut menu.

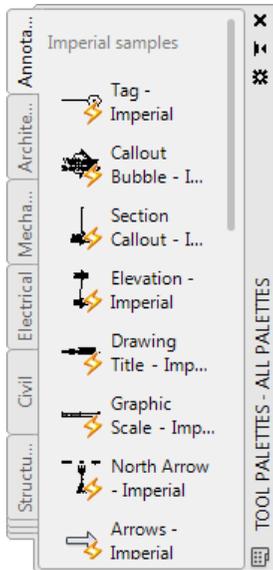


Figure 1-33 The Tool Palettes

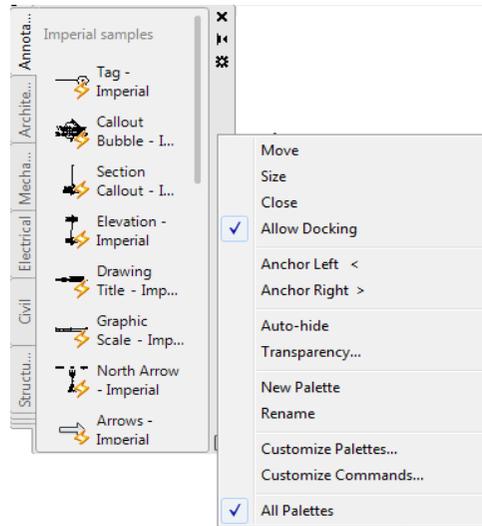


Figure 1-34 Shortcut menu displayed on right-clicking on the title bar of the Tool Palettes

File Tabs



The **File Tabs** button is available in the **Interface** panel of the **View** tab. It is used to toggle the display of the File tab bar which displays all opened files. You can easily switch between multiple opened drawings by clicking on them.



Note

The **View** tab is not displayed by default in the AutoCAD Electrical interface. To display it, right-click on the **Ribbon**; a shortcut menu will be displayed. Next, choose **Show Tabs > View** from the shortcut menu.

You can also create a new drawing file by clicking on the (+) sign available at the end of the file tabs. Figure 1-35 shows the **File Tabs** button chosen in the **Ribbon** and the File tab bar displayed at the bottom of the **Ribbon**.

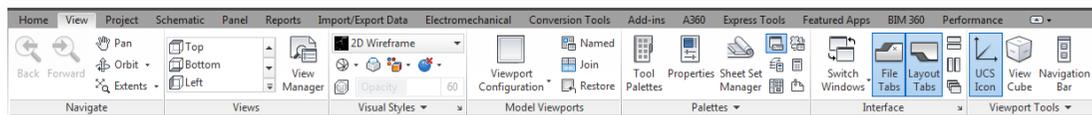


Figure 1-35 The **File Tabs** button chosen in the **Ribbon** and File tab bar displayed at the bottom of the **Ribbon**

In the File tab bar, all the added tabs get arranged in a sequence in which the respective drawings are created. You can change the sequence of the tabs in the File tab bar by using the left mouse button. To do so, press and hold the left mouse button on any tab and drag it to the desired location. If a large number of files are opened, some of the files will not be visible in the File tab bar and therefore an overflow symbol will be displayed on the right end of the File tab bar, refer to Figure 1-36. To open a tab which is not visible in the File tab bar, click on the overflow symbol; the names of all the tabs will be displayed in a flyout, refer to Figure 1-36. Also, when you move the cursor on a tab name, previews of the Model and Layouts will be displayed, refer to Figure 1-36. You can open the desired environment by clicking on its preview.

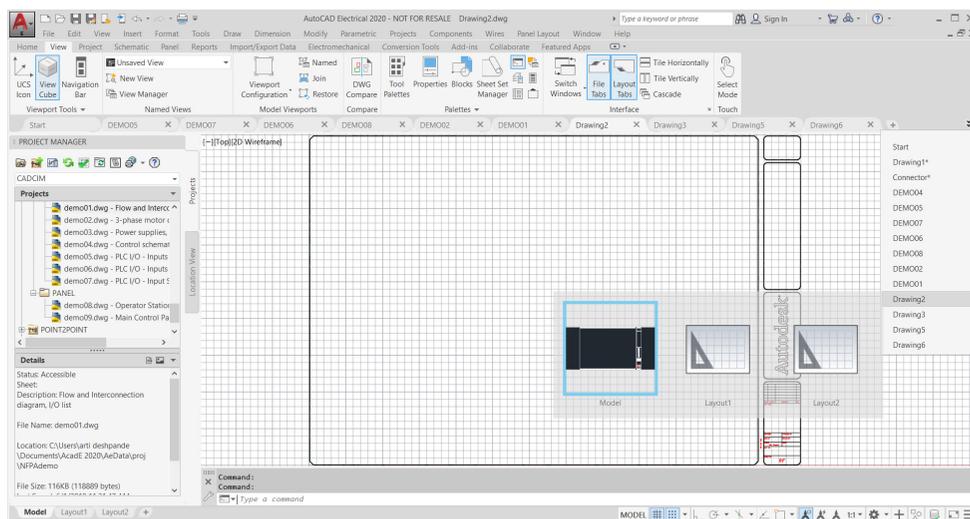


Figure 1-36 Flyout with file tab names and preview of their respective drawings

If you move the cursor over a file tab, the preview of the model and layout will be displayed. When you move the cursor over any preview in the file tab, the corresponding preview will be displayed in an enlarged form in the drawing area, refer to Figure 1-37.

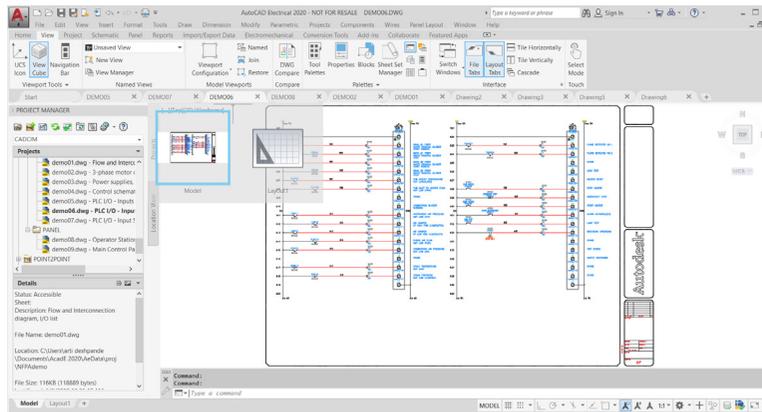


Figure 1-37 Previews of model and layout

There are two buttons available on the top of the preview window: **Plot** and **Publish**. By using **Plot**, you can plot the drawing and by using **Publish**, you can publish the drawing. When you right-click on a file tab, a shortcut menu containing various options such as **New**, **Open**, **Save**, **Save As**, **Close**, and so on will be displayed, refer to Figure 1-38. You can choose the option from the shortcut menu as per your requirement.

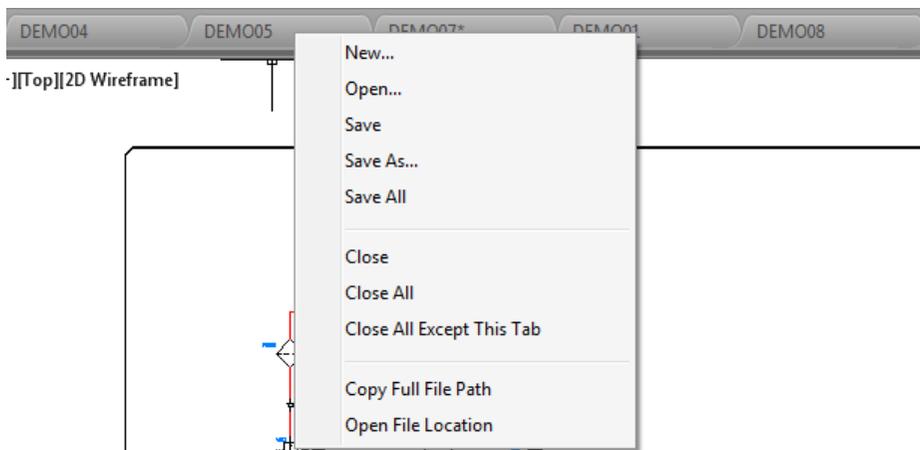


Figure 1-38 Shortcut menu displayed on right-clicking on the File tab bar

There are two icons displayed on the file tab: Asterisk and Lock. The Asterisk icon indicates that the file is modified but not saved. The Lock icon indicates that the file is locked and the changes cannot be saved with the original file name, although you can use the **SaveAs** tool to create another copy.

To open a drawing as a locked file, first choose the **Open** option from the shortcut menu displayed on right-clicking over the file tab; the **Select File** dialog box will be displayed. Select the desired

file and then select the **Open Read-Only** option from the **Open** drop-down list. On doing so, the file will be opened as a locked file in the drawing area. You can also open the file as a locked file by using the **Open** button from the **Quick Access Bar**.

PROJECT MANAGER

The **PROJECT MANAGER**, as shown in Figure 1-39, is used to create new projects, add new drawings to a project, re-order drawing files, access the existing projects, or modify the existing information in a project. By default, the **PROJECT MANAGER** is opened and docked on the left of your screen. The **PROJECT MANAGER** displays a list of projects. Using the **PROJECT MANAGER**, you can open, activate, edit, and close projects. The **PROJECT MANAGER** is discussed in detail in Chapter 2.

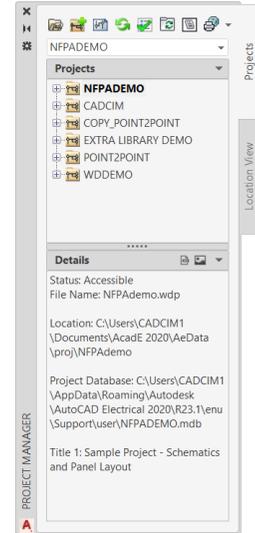


Figure 1-39 The **PROJECT MANAGER**

COMPONENTS OF AutoCAD Electrical DIALOG BOXES

In AutoCAD Electrical, there are certain commands, which when invoked, display a dialog box. When you choose an item with ellipses [...] from the menu bar, a dialog box will be displayed. For example, when you choose **Options** from the **Tools** menu, the **Options** dialog box will be displayed.

A dialog box contains a number of parts like dialog label, radio buttons, text or edit boxes, check boxes, slider bars, image boxes, and command buttons. These components are also referred to as tiles. Some of the components of a dialog box are shown in Figure 1-40.

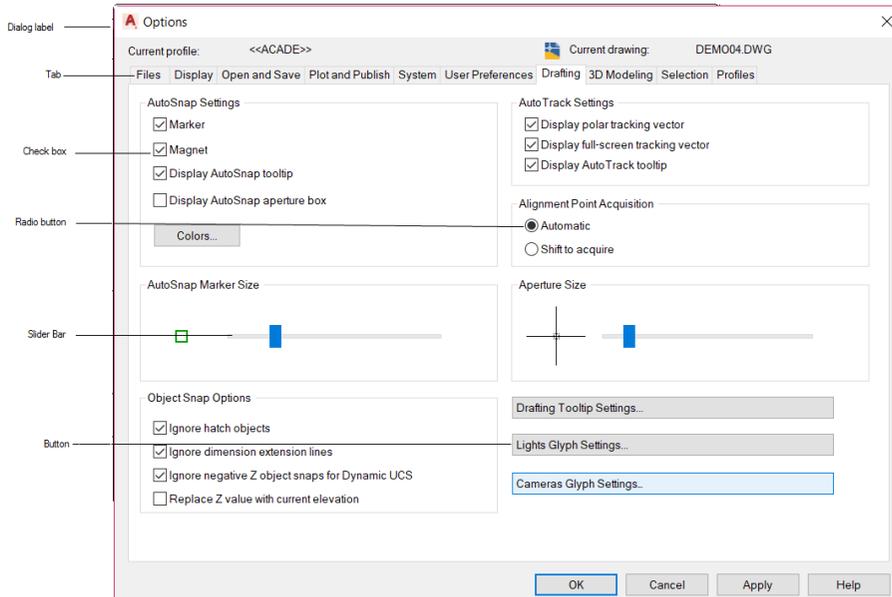


Figure 1-40 Components of a dialog box

The title bar displays the name of the dialog box. The tabs specify various sections with a group of related options under them. The check boxes are toggle buttons for making a particular option available or unavailable. The drop-down list displays an item and an arrow on the right which when selected displays a list of items to choose from. You can also select a radio button to activate the option corresponding to it. Only one radio button can be selected at a time. The text box is an area where you can enter a text like a file name. It is also called an edit box because you can make any change to the text entered. In some dialog boxes, there is the [...] button, which displays another related dialog box. There are certain command buttons (**OK**, **Cancel**, **Help**) at the bottom of the dialog box. The dialog box has a **Help** button for getting help on various features of the dialog box.

SAVING THE WORK

Command: QSAVE, SAVEAS, SAVE



In AutoCAD Electrical, you need to save your work before you exit from the drawing editor or turn off the system. Also, it is recommended that you save your drawings after regular time intervals, so that in the event of a power failure or an editing error, all work done by you is not lost and only the unsaved part is affected.

AutoCAD Electrical has provided the **QSAVE**, **SAVEAS**, and **SAVE** commands that allow you to save your work on the hard disk of a computer. These commands allow you to save your drawing by writing it to a permanent storage device such as a hard drive, or a diskette in any removable drive.

When you choose **Save** from the **Quick Access Toolbar** or **Application Menu**, the **QSAVE** command is invoked. If the current drawing is unnamed and you save the drawing for the first time in the present session, the **QSAVE** command will prompt you to enter the file name in the **Save Drawing As** dialog box. You can enter a name for the drawing and then choose the **Save** button. If you have saved a drawing file once and then edited it, you can use the **QSAVE** command to save it. This allows you to do a quick save.

When you invoke the **SAVEAS** command, the **Save Drawing As** dialog box will be displayed, refer to Figure 1-41. Even if the drawing has been saved with a file name, this command provides you with an option to save it with a different file name. In addition to saving the drawing, it allows you to set a new name for the drawing, which is displayed in the title bar.

This command is used when you want to save a previously saved drawing under a different file name. You can also use this command when you make certain changes to a template and want to save the changed template drawing without changing the original template.

The **SAVE** command is the most rarely used command and can be invoked only from the command line by entering **SAVE** at the Command prompt. This command is similar to the **SAVEAS** command and displays the **Save Drawing As** dialog box when invoked. With this command, you can save a previously saved drawing under a different file name.

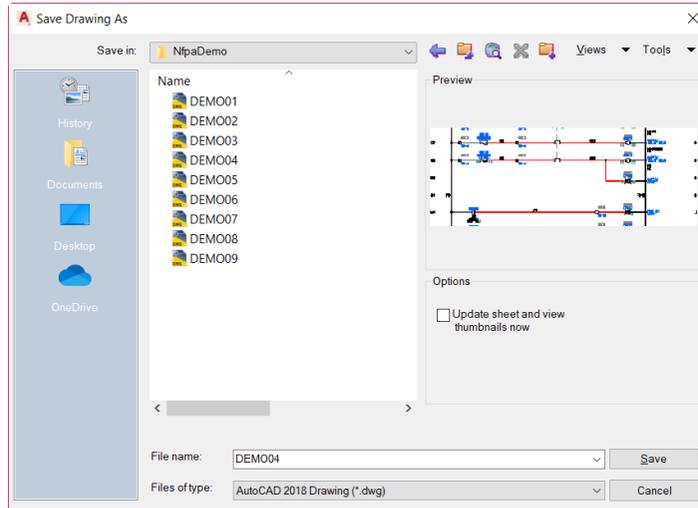


Figure 1-41 The *Save Drawing As* dialog box

Save Drawing As Dialog Box

The **Save Drawing As** dialog box displays the information related to drawing files on your system. Various options in this dialog box are described next.

Places List

A column of icons is displayed on the left in the dialog box. These icons contain shortcuts to the folders that are frequently used. You can quickly save your drawings in one of these folders. The **History** folder displays the list of the most recently saved drawings. The **FTP** folder displays the list of various FTP sites available for saving a drawing. By default, no FTP sites are shown in the dialog box. To add a FTP site to the dialog box, choose the **Tools** button at the upper-right corner of the dialog box to display a shortcut menu and select **Add/Modify FTP Locations**. The **Desktop** folder displays the list of contents on the desktop. The **Buzzsaw** icons connect you to their respective pages on a Web.

File name

To save your work, enter the name of the drawing in the **File name** edit box by typing the file name or selecting it from the drop-down list.

Files of type

The **Files of type** drop-down list, as shown in Figure 1-42, is used to specify a drawing format in which you want to save a file. For example, to save a file as an AutoCAD 2004 drawing file, select **AutoCAD 2004/LT 2004 Drawing (*.dwg)** from this drop-down list.

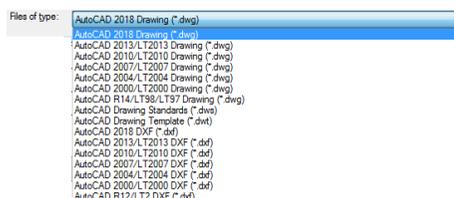


Figure 1-42 The *Files of type* drop-down list

Save in

The active project is listed in the **Save in** drop-down list. AutoCAD Electrical initially saves the drawing in the folder of the active project. But if you want to save the drawing in a different folder, you need to specify the path.

Views

The options in the **Views** flyout are used to specify how the list of files will be displayed in the **Save Drawing As** dialog box, refer to Figure 1-43. These options are discussed next.

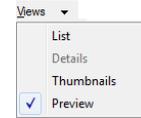


Figure 1-43 The Views flyout

List, Details, and Thumbnails Options

The **Files** list box displays the drawing files of a project. If you choose the **Details** option, it will display the detailed information about files (size, type, date, and time of modification) in the **Files** list box. In the detailed information, if you click on the **Name** label, the files will be listed with names in alphabetical order. If you again click on the **Name** label, the files will be listed in the reversed order. Similarly, if you click on the **Size** label, the files will be listed according to their size in ascending order. Double-clicking on the **Size** label will list the files in descending order of their size. Similarly, you can click on the **Type** label or the **Modified** label to list the files accordingly. If you choose the **List** option from the **Views** flyout, all files in the current folder will be listed in the **File** list box.



Tip

The file name you enter to save a drawing should match its contents. This helps you to remember drawing details and makes it easier to refer to them later. Also, the file name can be 255 characters long and can contain spaces and punctuation marks.

Create New Folder



If you choose the **Create New Folder** button, AutoCAD Electrical will create a new folder with the name **New Folder**. The new folder is displayed in the **File** list box. You can accept the name or change it as per your requirement. Alternatively, press ALT+5 to create a new folder.

Up one level



The **Up one level** button is used to display the folders that are up by one level. Alternatively, press ALT+2 to display the folder.

Search the Web



On choosing this button, the **Browse the Web - Save** dialog box will be displayed. This dialog box enables you to access and store AutoCAD Electrical files on Internet. You can also use the ALT+3 keys to access and store files on the Internet when this dialog box is available on the screen.

Tools

The **Tools** flyout has an option for adding or modifying the FTP sites, refer to Figure 1-44. These sites can then be browsed from the FTP shortcut in the **Places** list. The **Add Current Folder to**

Places and **Add to Favorites** options are used to add the folder displayed in the **Save in** edit box to the **Places** list or to the **Favorites** folder.

The **Options** button, when chosen, displays the **Saveas Options** dialog box where you can save the proxy images of custom objects. This dialog box has the **DWG Options** and **DXF Options** tabs. The **Display Signatures** button displays the **Security Options** dialog box that is used to configure the security options of a drawing.

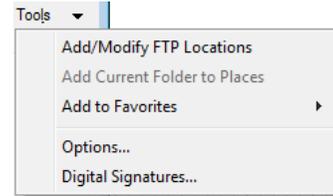


Figure 1-44 The **Tools** flyout

AUTO SAVE

AutoCAD Electrical allows you to save your work automatically at specific intervals. To change the time intervals, you can enter the interval's duration in minutes in the **Minutes between saves** text box in the **File Safety Precautions** area of the **Options** dialog box (**Open and Save** tab). This dialog box can be invoked from the **Tools** menu. Depending on the power supply, hardware, and type of drawings, you should decide on an appropriate time and assign it to this variable. AutoCAD Electrical saves the drawing with the file extension *.sv\$*. You can also change the time interval by using the **SAVETIME** system variable.



Tip

Although the automatic save option saves your drawing after a certain time interval, you should not completely depend on it because the procedure for converting the *sv\$* file into a drawing file is cumbersome. Therefore, it is recommended that you save your files regularly by using the **QSAVE** or **SAVEAS** command.

CREATING BACKUP FILES

If a drawing file already exists and you use the **SAVE** or **SAVEAS** command to update the current drawing, AutoCAD Electrical will create a backup file. AutoCAD Electrical takes the previous copy of the drawing and changes it from a file type *.dwg* to *.bak*, and the updated drawing is saved as a drawing file with the *.dwg* extension. For example, if the name of a drawing is *myproj.dwg*, AutoCAD Electrical will change the name to *myproj.bak* and save the current drawing as *myproj.dwg*.

Using the Drawing Recovery Manager to Recover Files

The automatically saved files can also be retrieved using the **Drawing Recovery Manager**. If the system crashes accidentally and the automatic save operation is performed on a drawing, the **Drawing Recovery** dialog box will be displayed when AutoCAD Electrical is run the next time, as shown in Figure 1-45.

The dialog box informs you that the program unexpectedly failed and you can open the most suitable file from the backup files created by AutoCAD Electrical. To open the most suitable file among the backup files, choose the **Close** button from the **Drawing Recovery** dialog box; the **Drawing Recovery Manager** will be displayed on the left of the drawing area, as shown in Figure 1-46. The **Backup Files** rollout lists the original files, backup files, and automatically saved files. Select the required file; the preview of the file will be displayed in the **Preview** rollout. Also, the information corresponding to the selected file will be displayed in the **Details** rollout. To open the backup file, double-click on its name in the **Backup Files** rollout. Alternatively,

right-click on the file name, and then choose **Open** from the shortcut menu. It is recommended that you save the backup file at the desired location before you start working on it.

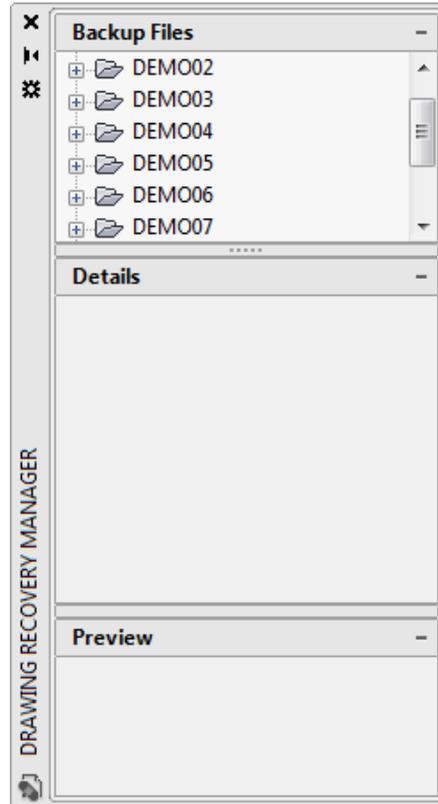


Figure 1-46 The *Drawing Recovery Manager*

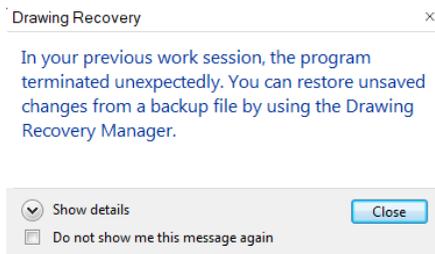


Figure 1-45 The *Drawing Recovery* dialog box

CLOSING A DRAWING

You can close the current drawing file without actually quitting AutoCAD Electrical by using the **CLOSE** command. If multiple drawing files are opened, choose **Close > All Drawings** from the **Application Menu**; the drawings will be closed. If you have not saved the drawing after making the last change to it and you invoke the **CLOSE** command, AutoCAD Electrical will display a dialog box that allows you to save the drawing before closing it. This box provides you with an option to discard the current drawing or the changes made to it. It also provides you with an option to cancel the command. After closing the drawing, you are still in AutoCAD Electrical from where you can open a new or an already saved drawing file. You can also use the close button (X) to close the drawing.



Note

You can close a drawing even if a command is active.

QUITTING AutoCAD Electrical

You can exit the AutoCAD Electrical program by using the **EXIT** or **QUIT** command. Even if you have an active command, you can choose **Exit AutoCAD Electrical** from the **Application Menu** to quit the AutoCAD Electrical program. In case the drawing has not been saved, the **AutoCAD** message box will be displayed. Note that if you choose **No** in this message box, all changes made in the current drawings, till they were last saved, will be lost. You can also use the close button (**X**) of the main AutoCAD Electrical window (present in the title bar) to end the AutoCAD Electrical session.



Tip

*You can open the **Drawing Recovery Manager** again by choosing **Drawing Utilities > Open the Drawing Recovery Manager** from the **Application Menu** or by entering **DRAWINGRECOVERY** at the Command prompt.*

DYNAMIC INPUT MODE

As mentioned earlier, turning the **Dynamic Input** mode on allows you to enter commands through the pointer input and dimensions using the dimensional input. When this mode is turned on, all prompts will be available at the tooltip as dynamic prompts. The settings for the **Dynamic Input** mode are made through the **Dynamic Input** tab of the **Drafting Settings** dialog box. To invoke the **Drafting Settings** dialog box, right-click on the **Dynamic Input** button in the Status Bar; a shortcut menu will be displayed. Choose the **Dynamic Input Settings** option from the shortcut menu; the **Drafting Settings** dialog box will be displayed, as shown in Figure 1-47. Alternatively, enter **DSETTINGS** at the Command prompt to display the **Drawing Settings** dialog box. The options in the **Dynamic Input** tab of the **Drafting Settings** dialog box are discussed next.

Enable Pointer Input

With the **Enable Pointer Input** check box selected, you can enter commands through the pointer input. Figure 1-48 shows the **AEWIRE** command entered through the pointer input. If this check box is cleared, the **Dynamic Input** will be turned off and the commands will be entered through the Command prompt in a way similar to the old releases of AutoCAD Electrical.

On choosing the **Settings** button from the **Pointer Input** area, the **Pointer Input Settings** dialog box will be displayed, as shown in Figure 1-49. The radio buttons in the **Format** area of this dialog box are used to set the default settings for specifying other points, after specifying the first point. By default, the **Polar format** and **Relative coordinates** radio buttons are selected. As a result, coordinates will be specified in the polar form, with respect to the relative coordinates system. You can select the **Cartesian format** radio button to enter coordinates in the cartesian form. Likewise, if you select the **Absolute coordinates** radio button, numerical entries will be measured with respect to the absolute coordinate system.

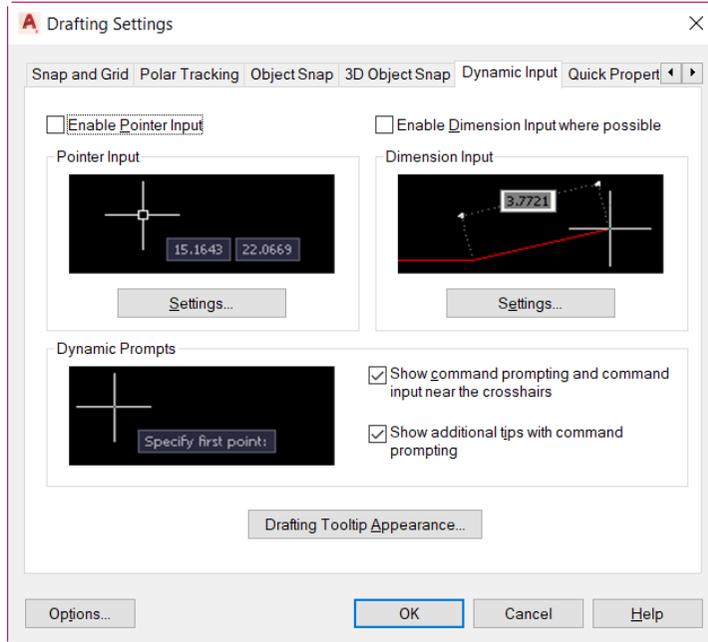


Figure 1-47 The *Dynamic Input* tab of the *Drafting Settings* dialog box

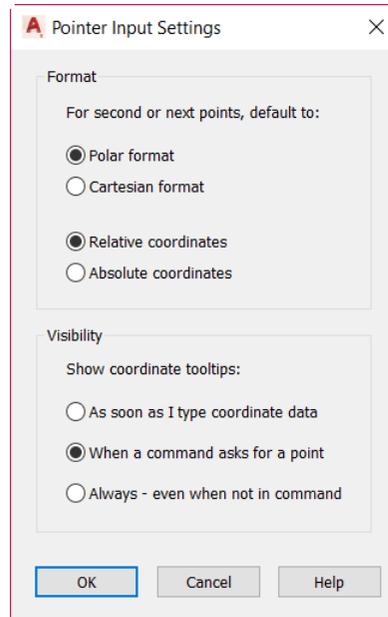


Figure 1-49 The *Pointer Input Settings* dialog box

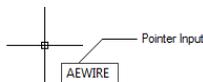


Figure 1-48 Entering a command using the pointer input

The **Visibility** area in the **Pointer Input Settings** dialog box is used to set the visibility of tool tips of coordinates. By default, the **When a command asks for a point** radio button is selected. You can select the other radio buttons to modify this display.

CREATING AND MANAGING WORKSPACES

A workspace is defined as a customized arrangement of toolbars, menus, and window palettes in the AutoCAD Electrical environment. Workspaces are required when you need to customize the AutoCAD Electrical environment for a specific use, in which you need only a certain set of toolbars and menus. For such requirements, you can create your own workspaces in which only the specified toolbars, menus, and palettes will be available. By default, the **ACADE & 2D Drafting & Annotation** workspace is set as the current workspace when you start AutoCAD Electrical. You can choose any other predefined workspace from the shortcut menu that will be displayed on choosing the **Workspace Switching** button in the Status Bar or by choosing the required workspace from **Tools > Workspaces** in the menu bar. You can also choose the workspace using the **Workspaces** toolbar.

Creating a New Workspace

To create a new workspace, invoke the toolbars and window palettes that you want to display in the new workspace. Next, choose **Tools > Workspaces > Save Current As** from the menu bar; the **Save Workspace** dialog box will be displayed, as shown in Figure 1-50. Enter the name of the new workspace in the **Name** edit box and choose the **Save** button from the dialog box.

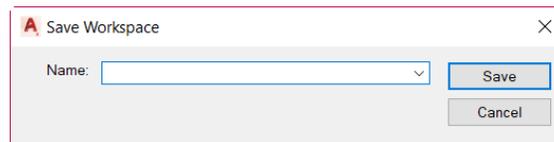


Figure 1-50 The Save Workspace dialog box

The new workspace will now be the current workspace in the shortcut menu that is displayed on choosing the **Workspace Switching** button on the Status Bar. Likewise, you can create workspaces as per your requirement and can switch from one workspace to the other by selecting the required name of the workspace from the drop-down list in the **Workspaces** toolbar.

Modifying Workspace Settings

AutoCAD Electrical allows you to modify workspace settings. To do so, choose the **Workspace Switching** button from the Status Bar; a flyout will be displayed. Choose the **Workspace Settings** option from the flyout; the **Workspace Settings** dialog box will be displayed, as shown in Figure 1-51. All workspaces that are created are listed in the **My Workspace** drop-down list. You can make any of the workspaces as My Workspace by selecting it in the **My Workspace** drop-down list. You can also choose the **My Workspace** tool from the **Workspace Switching** toolbar to change the current workspace to the one that was set as My Workspace in the **Workspace Settings** dialog box. The other options in this toolbar are discussed next.

Menu Display and Order Area

The options in this area are used to set the order of the display of workspaces in the drop-down list of the **Workspaces** toolbar. By default, workspaces are listed in the sequence of their creation. To change the order, select the workspace and choose the **Move Up** or **Move Down** button. You can also add a separator between workspaces by choosing the **Add Separator** button. A separator is a line that is placed between two workspaces in the shortcut menu that is displayed on choosing the **Workspace Switching** tool in the Status Bar.

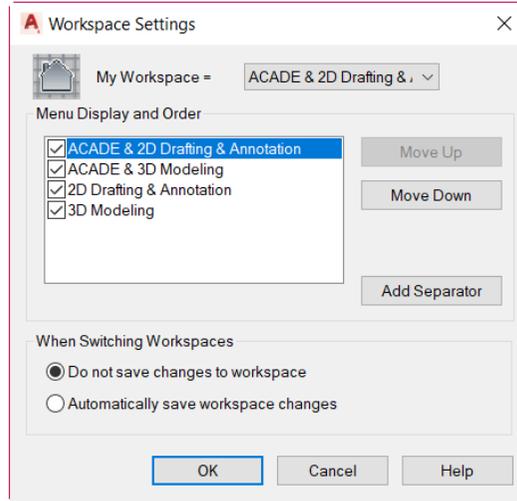


Figure 1-51 The Workspace Settings dialog box

When Switching Workspaces Area

By default, the **Do not save changes to workspace** radio button is selected in this area. As a result, while switching workspaces, the changes made in the current workspace will not be saved. If you select the **Automatically save workspace changes** radio button, the changes made in the current workspace will automatically be saved when you switch to the other workspace.

WD_M BLOCK

Most of the settings of a drawing used by AutoCAD Electrical are saved in a smart block on the drawing, called WD_M.dwg. Every drawing of AutoCAD Electrical should consist of non-visible WD_M block to make the drawing compatible with AutoCAD Electrical. The drawing should consist of only one copy of WD_M block. The WD_M.dwg block is situated in the default symbol library. The WD_M.dwg consists of various attributes that define layer names, default settings, and so on. If the WD_M block is not present in the existing or new drawing and if you want to insert any electrical component or want to edit drawing properties, then the **Alert** message box will be displayed, as shown in Figure 1-52. Choose the **OK** button in this message box to insert the WD_M block at 0,0 location. By default, the **Force this drawing's configuration settings to match the project settings** check box is selected. As a result, the drawing settings will be matched to the project settings.



Note

For inserting panel layout symbols in the drawing, you need to insert the WD_PNLM block, which will be discussed in Chapter 8.

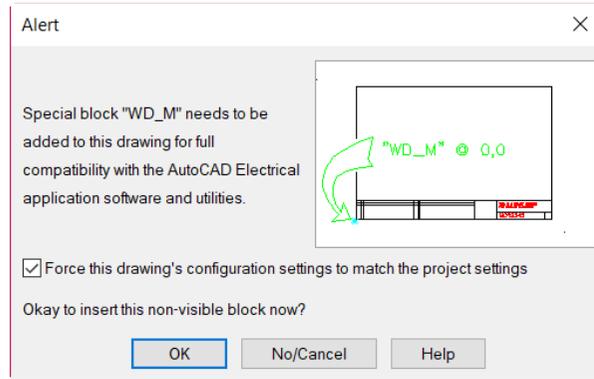


Figure 1-52 The Alert message box

AutoCAD Electrical HELP

You can get online help and documentation about the working of AutoCAD Electrical 2020 commands from the **Help** menu in the menu bar, refer to Figure 1-53. You can access the **Help** menu for a particular tool. To do so, place the cursor on the particular tool and then press the F1 key; the **AutoCAD Electrical 2020 - Help** window will be displayed. This window displays the detailed description related to that particular tool. The menu bar also contains InfoCenter bar, as shown in Figure 1-54. This bar helps you search information by using certain keywords. The options in the **Help** menu and the **InfoCenter** bar are discussed next.

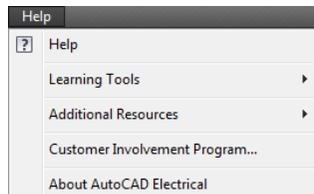


Figure 1-53 The Help menu

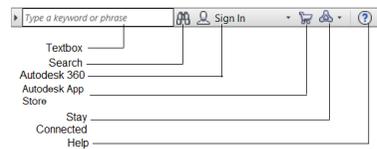


Figure 1-54 The InfoCenter bar

Help Menu

Electrical Help Topics

On choosing the **Help** option, the **AutoCAD Electrical 2020 - Help** window will be displayed. Figure 1-55 shows partial view of the **AutoCAD Electrical 2020 - Help** window.

You can use this window to access help on different topics and commands. If you are in the middle of a command and require help regarding it, choose the **Help** button to display information about that particular command in the dialog box.

In this window, you can choose the **Help Home** button to explore new features in AutoCAD Electrical 2020. Also, you can browse videos, tutorials, and documentation for beginners and advanced users in the **Essential Skills Videos** and **Resources** sections. You can download sample files and offline help database from the **Downloads** section. You can also connect to other users of Autodesk community and discussion groups using the **Connect** section.

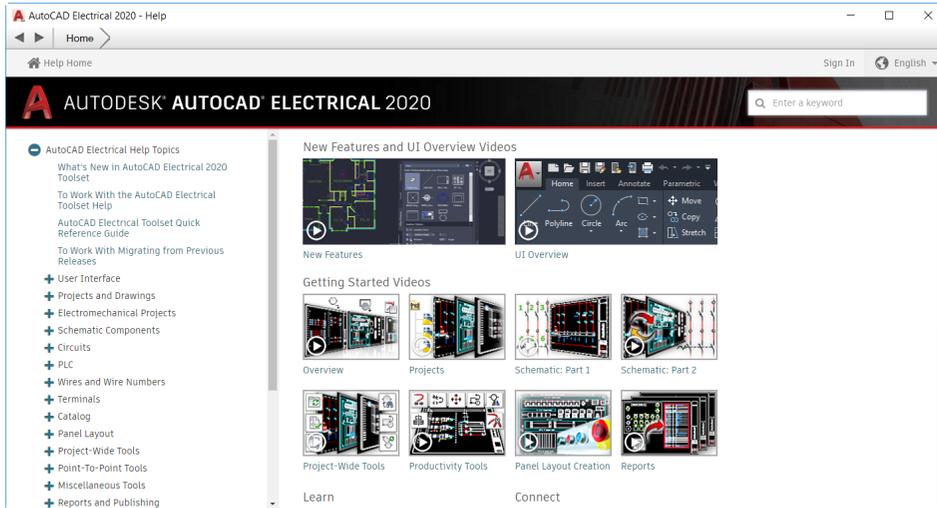


Figure 1-55 Partial view of the AutoCAD Electrical 2020 - Help window

Click on the + sign at the left of these sections to display the list of topics under them. Next, select a topic from the list; contents of the selected topic will be displayed at the right side of the AutoCAD Electrical 2020 - Help window.

Search Field

When you type any word in the Search edit box and then choose the **Search** button, a list of topics related to the typed word will be displayed below the **Search** button. You can select the desired topic from the list; the information related to that topic will be displayed in the AutoCAD Electrical 2020 - Help window.

Learning Resources

Choose **Help > Learning Tools > Learning Resources** from the menu bar; the AutoCAD Electrical 2020 - Help window will be displayed. Using this window, you can access information about topics such as user interface, AutoCAD Electrical Quick Reference Guide, AutoCAD Electrical 2020 Toolset New Feature Summary, and so on. When you choose a topic, the description of the feature improvements will be displayed in a window.

Additional Resources

This utility connects you to the **Support Knowledge Base**, **Online Training Resources**, **Online Developer Center**, **Developer Help**, **API Help**, and **Autodesk User Group International** web pages. The **Developer Help** option provides a detailed help on customizing AutoCAD Electrical in a separate window. You can click on any link on the right of this window.

About AutoCAD Electrical

This option gives you information about the Release, Serial number, Licensed to, and also the legal description about AutoCAD Electrical.

InfoCenter Bar

InfoCenter

InfoCenter is an easy way to get the desired help documentation. Enter the keywords to be searched in the textbox and choose the **Search** button; the result will be displayed as a link in the **AutoCAD Electrical 2020 - Help** window, refer to Figure 1-56. To display the required information in this window, click on any one of the search topics from the list, the information related to the search topic will be displayed at the right of the window.

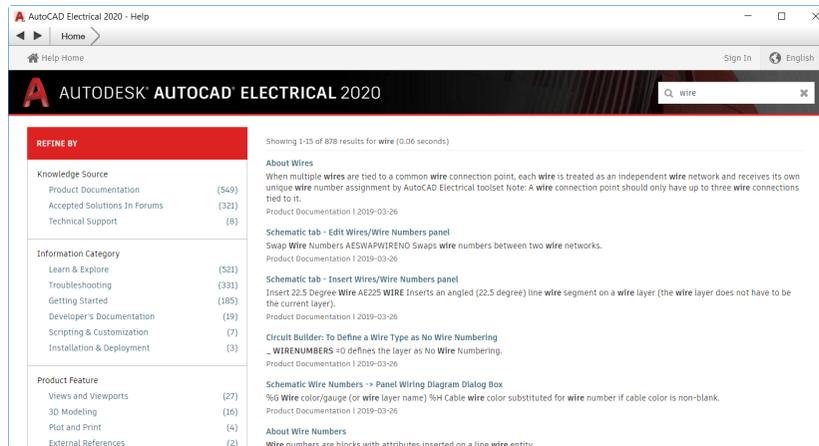


Figure 1-56 The search results displayed using InfoCenter

Autodesk App Store

Autodesk App Store helps you to download various applications for AutoCAD Electrical, get connected to the AutoCAD network, share information and designs, and so on. On choosing the **Autodesk App Store** button from the InfoCenter bar, the **AUTODESK APP STORE**  window will be opened, refer to Figure 1-57.

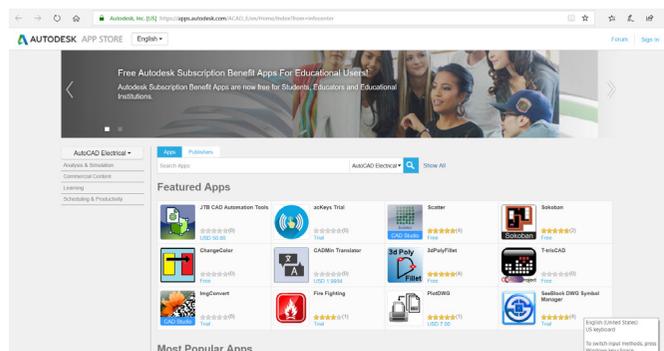


Figure 1-57 The AUTODESK APP STORE window

You can download various Autodesk apps from this page. Some of them are free of cost. You can also search for the apps by entering the name of the app in the **Search Apps** text box. You can

download the AutoCAD apps from the **Featured Apps** panel of the **Featured Apps** tab in the **Ribbon**, refer to Figure 1-58. To download the AutoCAD apps, choose the required apps from the **Featured Apps** panel of the **Feature Apps** tab; the default browser will open with the icons of the apps to be downloaded. Now, you can download the app.



Figure 1-58 The Featured Apps panel of the Feature Apps tab in the Ribbon

You can also download apps other than the apps available in the **Featured Apps** panel. To do so, choose the **Connect to App Store** button from the **App Store** panel of the **Featured Apps** tab; the **AUTODESK APP STORE** window will be displayed, refer to Figure 1-57. Next, choose **Show All** from the **AUTODESK APP STORE** window. Now, you can download the required apps from the window. You can also search apps by entering the name of the required app in the **Search Apps** text box. Some of the apps are paid and some of them are free to download.

The downloaded and installed apps will be available in the **Add-Ins** tab. You can choose the required app to work with and can manage it by choosing the **Exchange App Manager** button available in the **App Manager** panel of the **Add-Ins** tab. To manage the app, choose the **App Manager** button from the **App Manager** panel in the **Add-ins** tab; the **Autodesk App Manager** dialog box with all the installed apps will be displayed. To manage a particular app, right-click on it; a shortcut menu will be displayed, as shown in Figure 1-59. Now, you can choose the required option to manage the app.

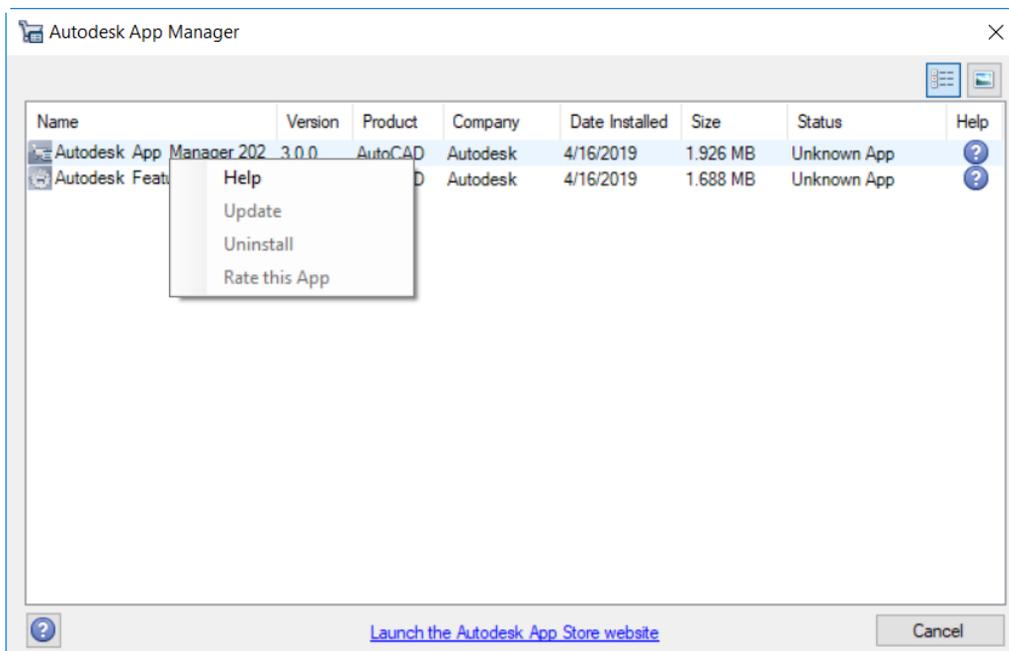


Figure 1-59 The Autodesk App Manager dialog box

Stay Connected



When you choose this button, a flyout is displayed, as shown in Figure 1-60. The options in this flyout provide you quick access to the subscription center and social media.

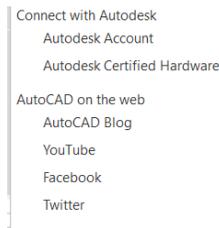


Figure 1-60 The flyout displayed

SAVE TO WEB & MOBILE

Command: SAVETOWEBMOBILE



Using the **Save to Web & Mobile** tool, you can save copy of your drawings in your Autodesk web & mobile account from any remote location in the world using any device such as desktop or mobile having internet access. You can access this tool from the **Quick Access Toolbar** or **Application Menu**. When you choose this tool for the first time, you will be prompted to install the Save to AutoCAD Web and Mobile Plug-in.

Choose the **Save to Web & Mobile** tool from the **Quick Access Toolbar**; the **Install Save to AutoCAD Web & Mobile** window will be displayed, refer to Figure 1-61.

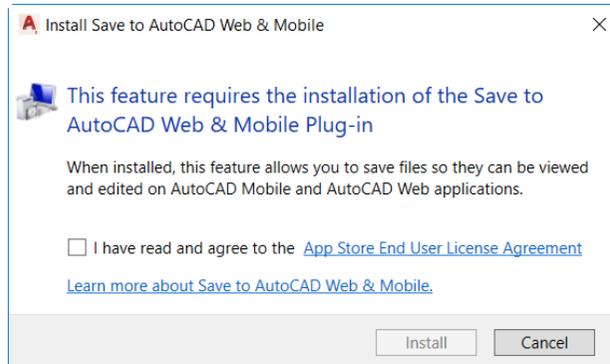


Figure 1-61 The Install Save to AutoCAD Web & Mobile window

Select the **I have read and agree to the App Store End User License Agreement** check box from this window; the **Install** button will be activated. Next, choose the **Install** button. Once the installation process is complete, the **Save in AutoCAD Web & Mobile** dialog box will be displayed, refer to Figure 1-62.

Enter the name of the file to be saved in the **File name** edit box. Next, choose the **Save** button.

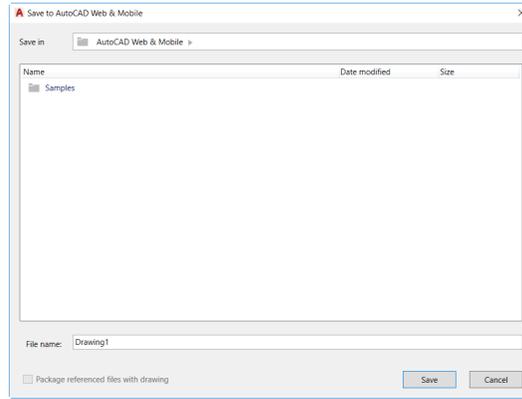


Figure 1-62 The *Save in AutoCAD Web & Mobile* dialog box



Note

1. The name of the saved files appear in the **Name** column of the list box available in the **Save in AutoCAD Web & Mobile** dialog box when you invoke this dialog box again.

2. You need to first sign in to your Autodesk account to use this tool. If you are not signed in and choose this tool, the Autodesk sign-in window will appear and will prompt you to sign in first.

3. The drawing files saved in your web and mobile account are saved to the cloud and utilise the cloud space. You can save them to your device by using the **Save As** tool.

4. You can also share the saved files with any of the co-workers or clients across the world. They can review or edit the drawing files depending upon the permissions you grant them.

After saving the file to your web and mobile account, you can access it from anywhere across the world using any device (mobile, tablet, etc) having Wi-fi or internet connection.



Note

You can access the saved web and mobile files using the **Open from Web & Mobile** tool available in the **Quick Access Toolbar**.

ADDITIONAL HELP RESOURCES

1. You can get help for a command by pressing the F1 key. On doing so, the **AutoCAD Electrical 2020 - Help** window containing information about the command will be displayed. You can exit the dialog box and continue working with the command.
2. You can get help about a dialog box by choosing the **Help** button in that dialog box.
3. Autodesk has provided several resources that can be used to seek assistance for your AutoCAD Electrical questions. The following is a list of some of the resources:
 - a. Autodesk website: <https://www.autodesk.com>
 - b. AutoCAD Electrical Technical Assistance website: <https://knowledge.autodesk.com>
 - c. AutoCAD Electrical Discussion Groups website

4. CADCIM Technologies provides technical support for the study material discussed in our textbooks. Send us an email at techsupport@cadcim.com to seek technical assistance.

**Note**

For the printing purpose, this textbook will follow the white background.

Self-Evaluation Test

Answer the following questions and then compare them to those given at the end of this chapter:

- Which of the following combinations of keys should be pressed to turn the display of the **Tool Palettes** window on or off?
 - CTRL+3
 - CTRL+0
 - CTRL+5
 - CTRL+2
- If WD_M block is not present in a drawing and you insert a component in it, then the _____ message box will be displayed.
- The _____ option in the **Workspace Switching** flyout is used to save the current workspace settings as a new workspace.
- You can use the _____ command to close the current drawing file without actually quitting AutoCAD Electrical.
- You can retrieve the automatically saved files by using the _____.
- The _____ button in the Application Status Bar is used to display the expanded view of the drawing.
- You can press the F3 key to display the **AutoCAD Electrical** text window that displays previously used commands and prompts. (T/F)
- You cannot create a new drawing using the **PROJECT MANAGER**. (T/F)
- AutoCAD Electrical marking menu will be displayed when you right-click on the AutoCAD Electrical object such as component, wire, and so on. (T/F)
- You can press the F1 key to display the **AutoCAD Electrical 2020 - Help** window. (T/F)

Review Questions

Answer the following questions:

- Which of the following combinations of keys needs to be pressed to toggle display of all toolbars displayed on the screen?

(a) CTRL+3	(b) CTRL+0
(c) CTRL+5	(d) CTRL+2
- Which of the following commands is used to exit the AutoCAD Electrical program?

(a) QUIT	(b) END
(c) CLOSE	(d) EXIT
- Which of the following commands is invoked when you choose **Save** from the **File** menu or choose the **Save** button in the **Quick Access Toolbar**?

(a) SAVE	(b) LSAVE
(c) QSAVE	(d) SAVEAS
- The _____ button is used to add or remove buttons in the Application Status Bar.
- The _____ button is used to toggle the display of the File tab bar which displays all opened files.
- The _____ contains different commands for inserting components in Imperial and Metric units.
- The shortcut menu invoked by right-clicking in the command window displays the most recently used commands and some of the window options such as **Copy**, **Paste**, and so on. (T/F)
- The F12 function key is used to toggle the **Dynamic Input** mode. (T/F)

Answers to Self-Evaluation Test

1. CTRL+3, 2. Alert, 3. Save Current As, 4. CLOSE, 5. Drawing Recovery Manager, 6. Clean Screen, 7. F, 8. F, 9. T, 10. T