# AutoCAD Electrical 2023 – Point to Point Schematic Tools

## AutoCAD Electrical

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A point-to-point diagram contains the required information necessary to make or follow all wire connections and represents the actual physical wiring of an electrical system. It will show the devices as they're physically connected to with wires, showing both connected and unconnected terminal designations. Often a point-to-point diagram will be a top-down view of each component with wires being shown in colour. This type of drawings is often used for servicing and within specific markets such as harness design.
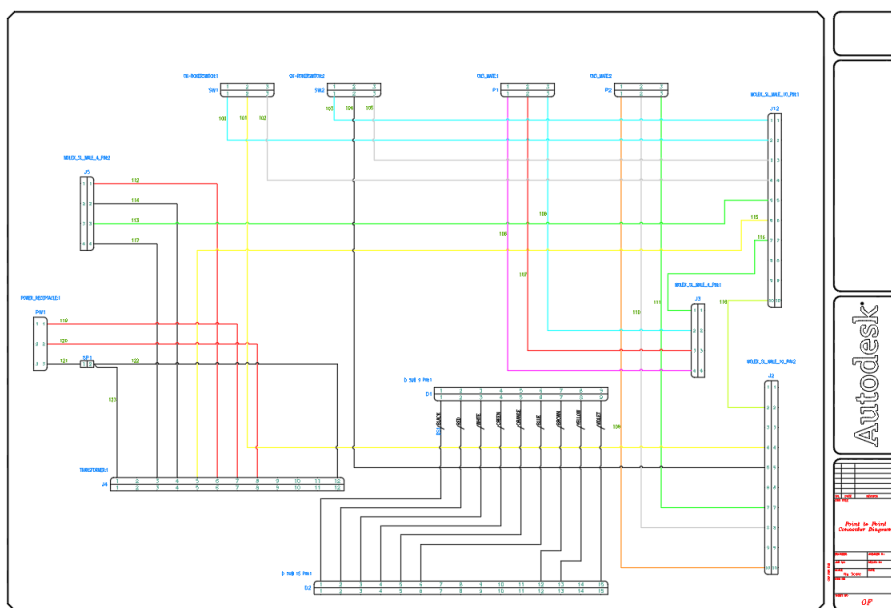


There are several drawing settings that can be made to suit this drawing style within the *Drawing Properties.* Wire numbers can be made inline and a gap between the wire number and wire defined:
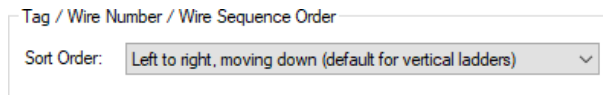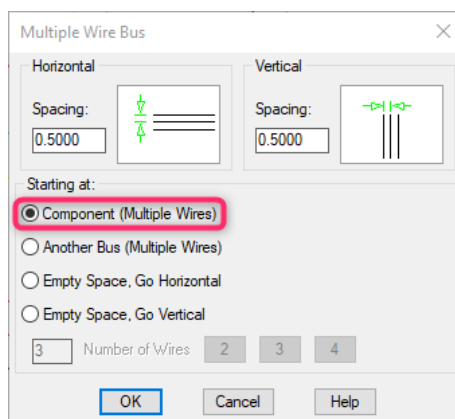
Loops can be defined meaning that when a wire crosses over another wire, an automatic loop is inserted:
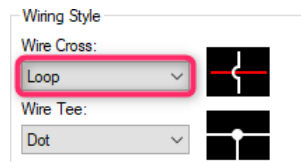


Tag / wire number / wire sequencing can be defined with the user's preferences:



When drawing within a point to point, the  *Multiple Bus* command allows you to draw from one component to another where it automatically detects the connection offsets.



The  *Cable Markers* command allows you to define multi-core cable idents, twisted pairs, screened etc.

The  *Insert Connector* command dynamically generates connectors based on the options selected at the insertion time.
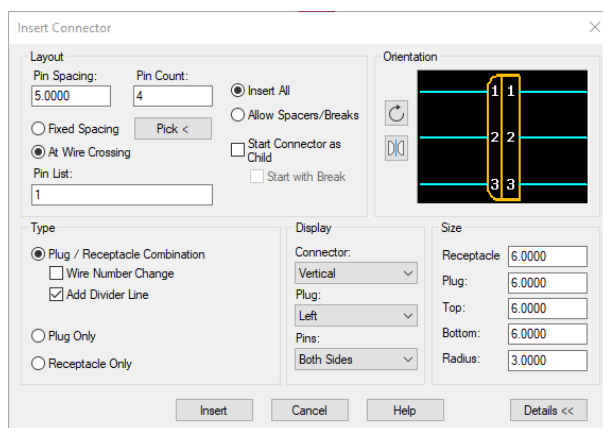


With additional functionality for editing, adding/deleting pins, reversing, splitting, stretching, moving pins, swapping pins etc and to define connector pin descriptions/usage.

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The  *Insert PLC (Parametric)* command allows you to generate PLC I/O modules on demand in a variety of graphical styles with no complete I/O module library symbols. You can stretch or break them into two or more pieces at insertion time or retrospectively. The functionality can be used for other devices similar to PLC's such as engine management, channel recorders, HVAC management etc.
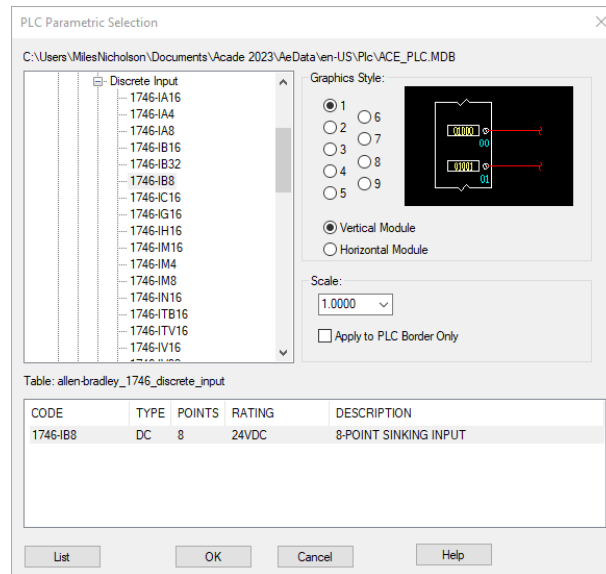


The *Scoot* command allows you to reposition the parametric connector along the same direction as the connected wiring and allows you to move wires attached to pins on the connectors. The wire scoots and the connector pin along with it while the overall connector shell stays fixed.

The  *Link Components with Dashed Line* command allows you to insert dash linked lines between parent and split-off child parametric connector symbols or any other parent/child symbols.

Of course, when drawing point to point, the user has access to all of AutoCAD Electricals' functionality meaning the task of creating these types of drawings is greatly improved with decreased design time, improved checking, and automated reporting.

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