



Autodesk® AutoCAD® Electrical 2016

What's new



Readers choose AutoCAD Electrical software as the number 1 ECAD product for the 11th year in a row!



Application UPDATE

aptime and allows improvement of operations as production processes are fine-tuned to reduce waste, save energy, and improve quality. A.B.E.'s customers also appreciate touchscreen's ease of use, and they find the HMI easy to use in a facility. For a low cost, customers get an HMI that provides advanced recipe, firmware and powerful data logging. Recipes allow the company's customers to quickly switch from production of one type of beer to another, a necessity to keep up with changing consumer tastes. Data logging facilitates compliance with track-and-trace and other regulations. The HMI panels provide local operator interface at the equipment or as a screen of a production line, customers also need remote access capabilities (built into the HMI).

Meet the new definition of "compact controller."

CK8000 series Embedded PCs: the cost-effective, space-saving PC-based control solution.



www.beckhoffautomation.com/CK8000

The CK8000 Embedded PC series integrates a full PC system into a slim panel module with front I/O connector or a remote I/O via Ethernet. This provides, even at high temperatures, the linear transfer to real-time and space for other applications.

- CPU: Intel Core i3, i5, i7, or i9
- 1x SATA III or 2x SATA II (2 x 6 GB)
- Interfaces: 1 x 2 serial, 1 x Ethernet, 1 x USB device
- Delivers 100% interface in real-time or delay
- PC interface or bus interface to I/O devices
- 100% I/O
- Operating system: Microsoft Windows 7

BECKHOFF

New Automation Technology

input 11/11 at www.controleng.com/information



Figure 4: Operator interface can be either local at the machine's hardened operator interface panel or remote via a smartphone or tablet. The Control Engineering award-winning low-cost app for use with iPads and iPhones, and access to and from the field from the app is extremely easy to configure. This gives customers operators and technicians the ability to remotely access real-time data from in the facility or outside.

Many A.B.E. customers are smaller businesses or new businesses that rely on a limited number of production personnel to oversee several lines or areas of the plant. The remote access provided by its HMI helps customers to maximize the efficiency of each employee to achieve production goals. The HMI chosen includes a low-cost app for use with iPads and iPhones, and access to and from the HMI from the app is extremely easy to configure. This gives customers operators and technicians the ability to remotely access real-time data from within the facility, or outside the plant if desired (Figure 4).

The app loads up more quickly than browser-based access and enables authorized workers to access data faster than with a browser. Workers can interact with operational data that's automatically and correctly sized for their device's screen. When changes need to be made, the app works with the HMI to execute quickly, faster than with a browser. Using off-the-shelf automation components whenever possible allows A.B.E. to spend more time designing new solutions instead of focusing on internal components.

Adam Kowalski, engineer, A.B.E. division of Nordland International, noted the Mark T. Hinkle, content manager, Control Engineering, info@controleng.com

Go Online

www.controleng.com/newsroom has more information with this article online.

Consider this...

What reasons might you have for using off-the-shelf automation components?

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Autodesk® AutoCAD® Electrical

Electrical CAD for controls design

AutoCAD® Electrical design software, part of Autodesk's Digital Prototyping solution, is AutoCAD for electrical controls designers. It includes all the functionality of AutoCAD® software but is purpose-built for electrical controls design. With a complete set of electrical CAD features, new designs are created 84% faster, and existing designs are edited 77% faster, greatly reducing risk of error and improving productivity.*



CONTROL ENGINEERING

2015

ENGINEERS' CHOICE AWARDS

Download your free 30 day trial** at www.autodesk.com/autocadelectrical-trial

*Source: Autodesk vs. AutoCAD Electrical Productivity Study 2014

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AUTODESK

input 11/11 at www.controleng.com/information

Winner—Control design software

Industry segments



Utilities and power



Engineering services



Building products and fabrication



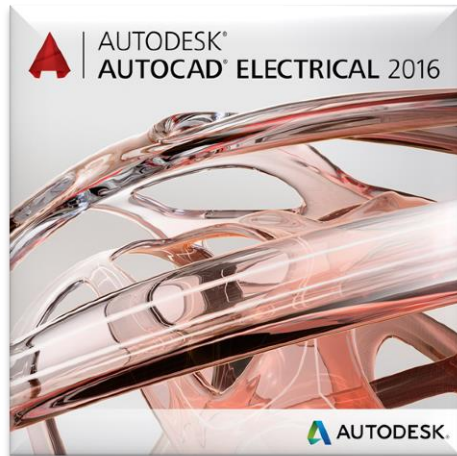
Industrial machinery



Automotive and transportation

2016 Product Design Suite | Includes Electrical

Autodesk® AutoCAD®
Electrical is in
Autodesk® Product
Design Suite Ultimate



AutoCAD Electrical 2016

Areas of focus

Project
management

Electromechanical
workflow

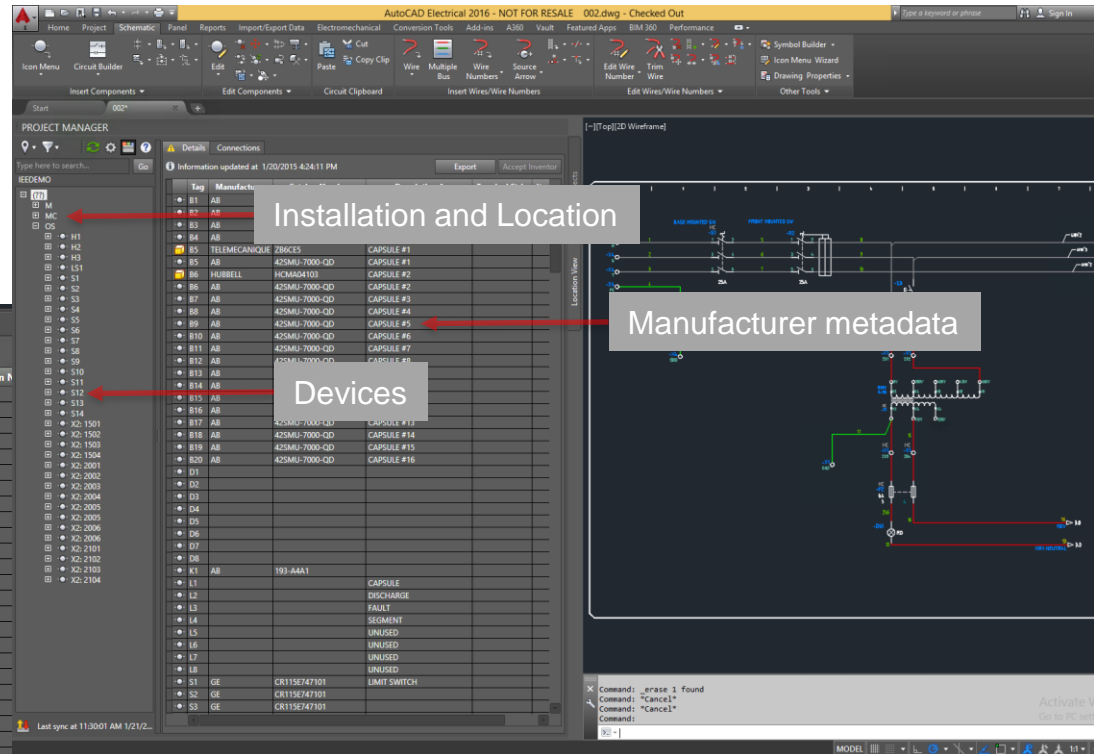
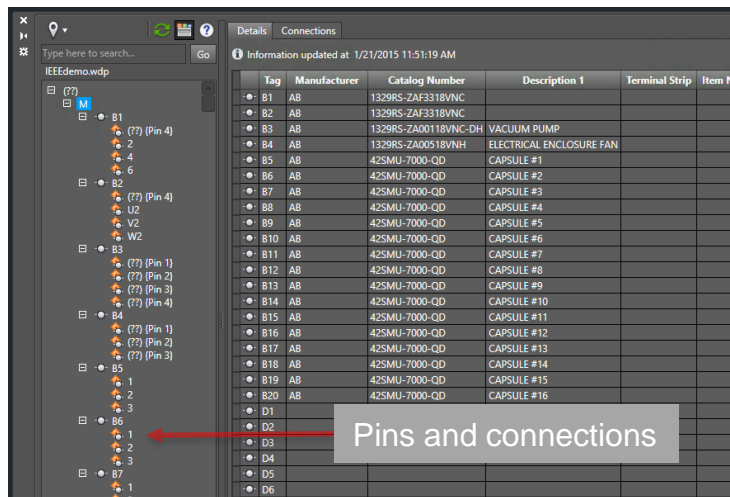
Customer
satisfaction

Idea Station

Project management—Location view

Project
management

- Device management
 - Hierarchy of devices
 - Accessible metadata
 - Surf/zoom to device



Project management—Location view

Project
management

- From/to connections
 - Includes wire lengths from Autodesk® Inventor® software
 - Export for review and reporting

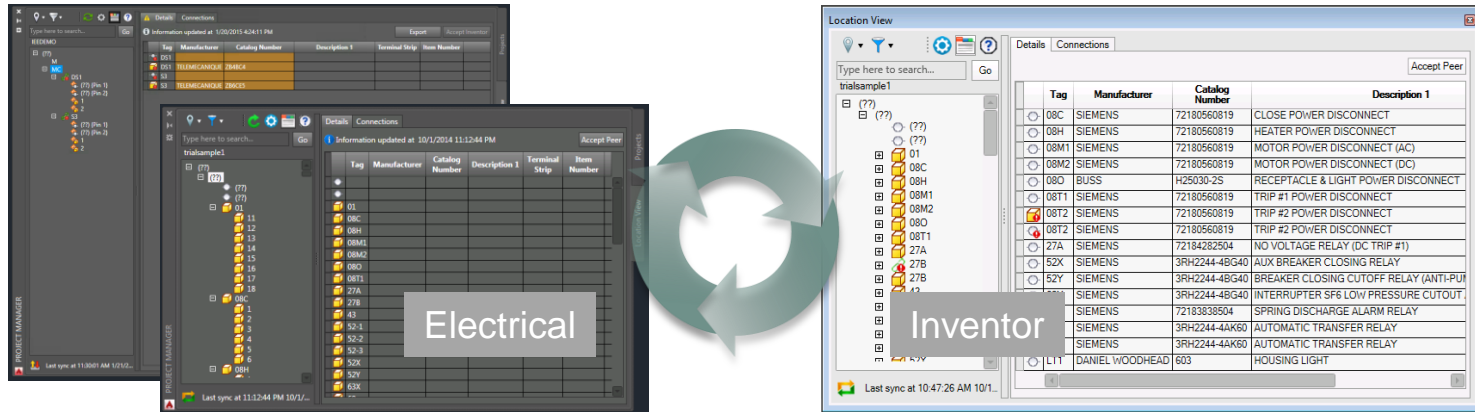
The screenshot displays the Autodesk Project Manager interface in the 'Location View' tab. On the left, a tree view shows the project structure for 'wddemo.wdp', including folders for 'FLOOR', 'JBOX1', 'MACHINE', 'MCAB5', and 'OPSTA3'. The main area shows a table of connections with columns: Wire Number, From Location, From Component, From Pin, To Location, To Component, and T. A red arrow points from the 'From/to connection information' text box to the 'Connections' tab. The table lists various wires and their connections between components like MCAB5, CR407, JBOX1, and TS-B.

	Wire Number	From Location	From Component	From Pin	To Location	To Component	T
	309	MCAB5	CR407				
	412	MCAB5	CR407		JBOX1	TS-B	4:
	324	MCAB5	CR407		MCAB5	PLC702	A
	324	MCAB5	TB-1	3: E	MCAB5	CR407	
	633	MCAB5	CR407		MCAB5	TB1	2:
	407A	OPSTA3	SS406		MCAB5	CR407	K:
	309B	MCAB5	CR407	K2	MCAB5	CR408	K:
	408A	OPSTA3	LT409	X1	MCAB5	CR408	K:
	309B	MCAB5	CR408	K2	MCAB5	M414	
	736	MCAB5	TB1	41: I	MCAB5	CR736	K:
	309B	MCAB5	CR736	K2	MCAB5	TB1	5:
	737	MCAB5	TB1	42: I	MCAB5	CR737	K:
	309B	MCAB5	CR737	K2	MCAB5	TB1	

Electromechanical “one design”

Electromechanical
workflow

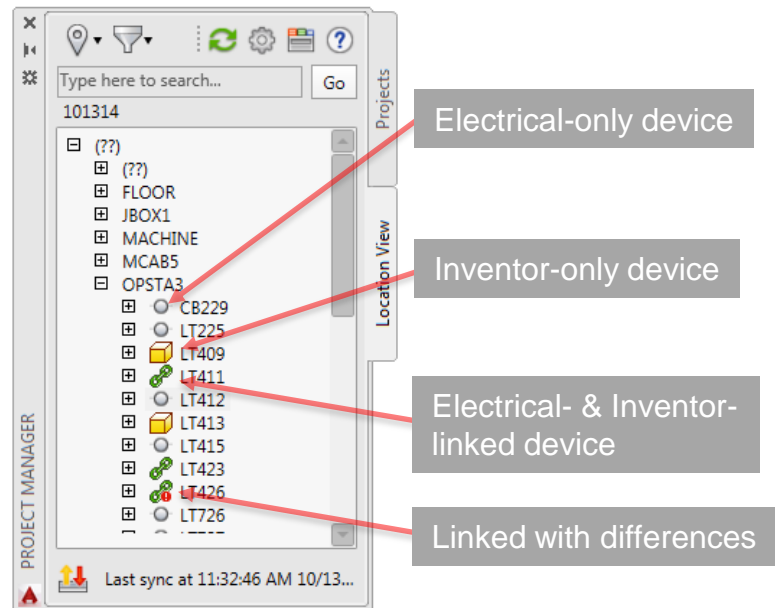
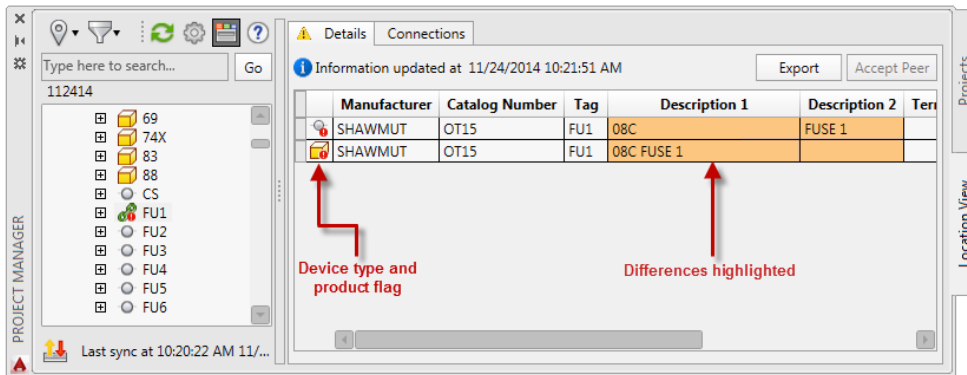
- AutoCAD Electrical & Autodesk Inventor
 - Common electromechanical project management
 - Consistent views in both products
 - Real-time cross-product device synchronization



Electromechanical design efficiencies

Electromechanical
workflow

- Intelligent design state information
 - Device organization by location
 - Linked status indicators
 - Real-time differences awareness

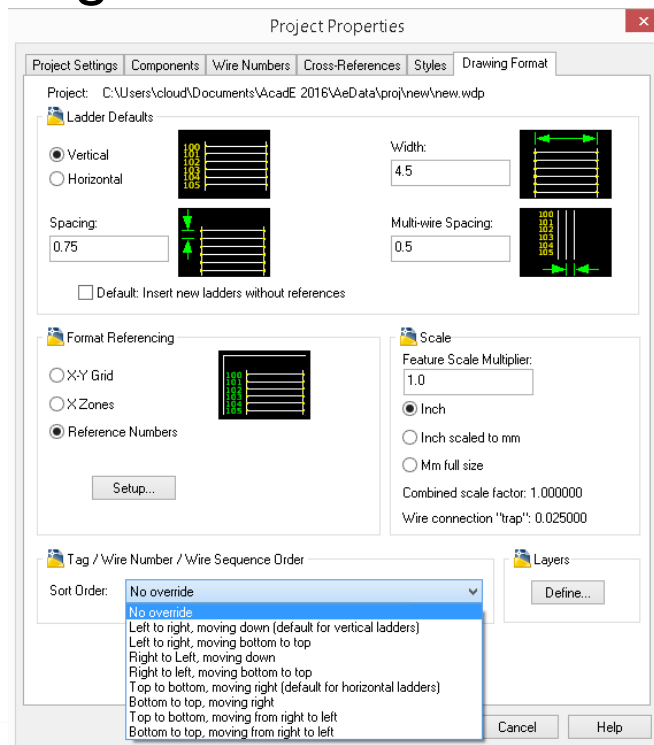
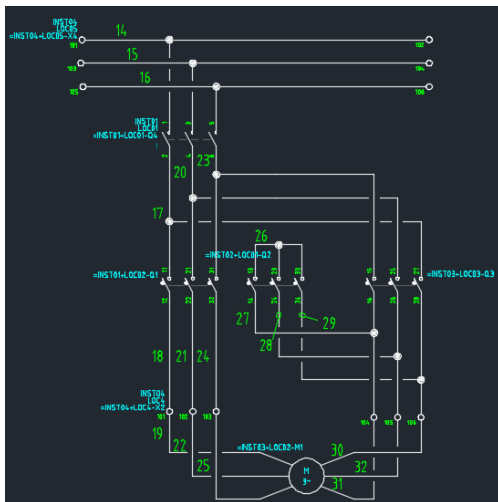


Wire connection sequencing

Electromechanical
workflow

■ Intelligent default sequencing

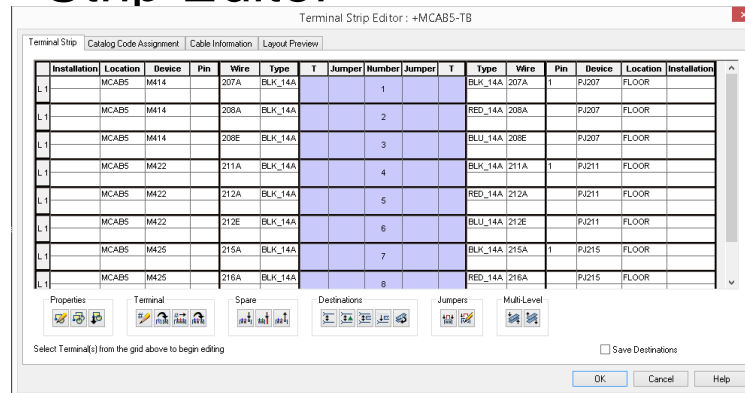
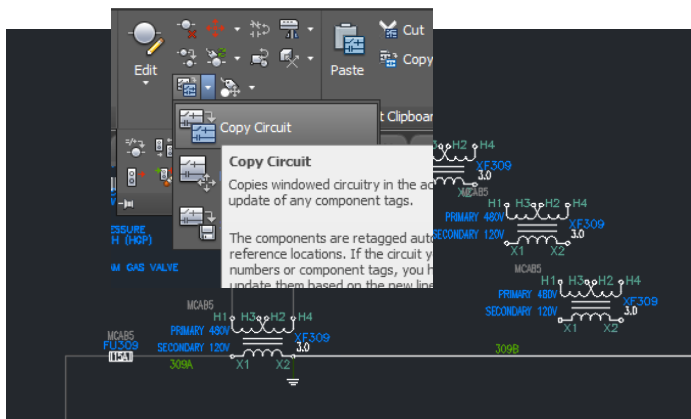
- Follows device sequence
- All standards
- Can be overridden



Customer satisfaction

Customer satisfaction

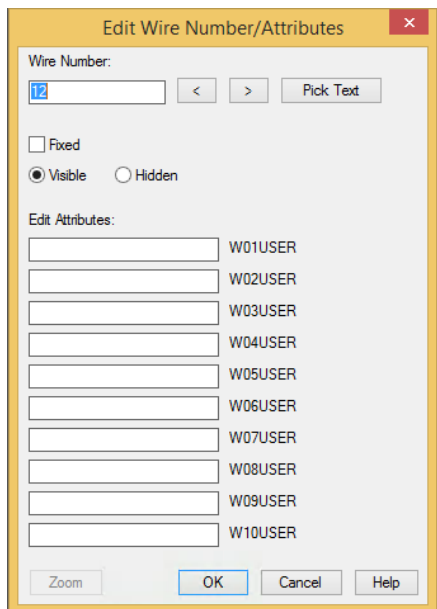
- Linked component filtering
- Panel rating defaults added
- Parametric component editor
- Multicopy circuit
- Circuit Builder API for linked line
- Save internal/external device assignments in Terminal Strip Editor



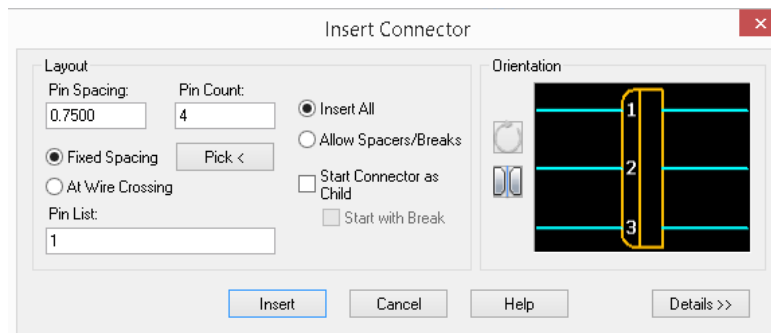
Customer satisfaction

Customer satisfaction

- User wire attribute support



- Persistent dialog settings



Idea Station – *Get involved*

Idea Station

The screenshot shows the Autodesk Electrical IdeaStation interface. At the top, there's a header with the Autodesk logo and the text "AUTOCAD ELECTRICAL IDEASTATION". Below this, there are tabs for "HOT IDEAS", "TOP IDEAS", and "NEW IDEAS". The "NEW IDEAS" tab is selected. On the left, there's a "NEW IDEA" button and a "Kudos" button with a red box around it. The main content area shows a post titled "Adjustable window and column size for windows that report user values" by klonbeck on 11-20-2014 01:54 PM. The post status is "Future Consideration". The post content says: "All windows and columns that report or show user defined values, like the project wide signal arrow window, should be adjustable by the user so they can ready everything." Below the text is a screenshot of a software window titled "Signal codes -- Project-wide Destination". This window contains a table with columns: Type, Sheet, Reference, Wire Number, Signal Code, and Description. The table lists various signal codes and their descriptions. A red circle highlights the "Description" column in the screenshot. To the right of the post, there's a "Submit Your Ideas" section with the text "Share and shape product ideas." and a "NEW IDEA" button. Below that is a "My Toolbox" section with a dropdown arrow. At the bottom, there's an "Announcements" section with the text "Please review our IdeaStation guidelines and best practices before posting a new idea, or voting on an existing one!". Below the announcements is an "Idea Statuses" section with links to "New Idea (81)", "Under Review (54)", "Comments Requested (9)", "Accepted (3)", and "Future Consideration (40)".

Autodesk Community : AutoCAD Electrical : AutoCAD Electrical IdeaStation : Top Ideas

AUTOCAD ELECTRICAL IDEASTATION

HOT IDEAS TOP IDEAS NEW IDEAS

NEW IDEA IdeaStation Options

19 Kudos

Adjustable window and column size for windows that report user values

Status: Future Consideration
by klonbeck on 11-20-2014 01:54 PM

All windows and columns that report or show user defined values, like the project wide signal arrow window, should be adjustable by the user so they can ready everything.

Signal codes -- Project-wide Destination

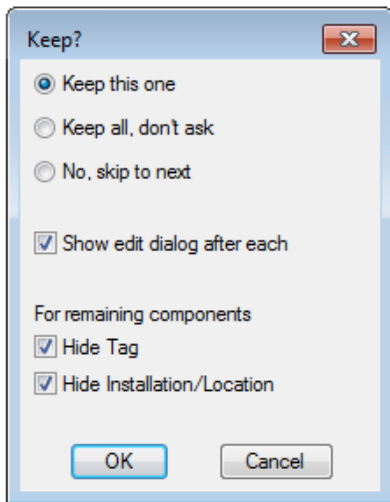
Type	Sheet	Reference	Wire Number	Signal Code	Description
D	036	01B-D01	LAN4	SIG124	1734-AENT, CATSE
D	036	01B-D04	0VDC-01B	SIG031	1734-AENT 24VDC, FLA: 10
D	036	01B-D05	02701B-D190	SIG030	1734-AENT 24VDC, FLA: 10
D	036	01B-D27	02701B-D190	SIG017	TERMINAL JUMPER
D	036	01B-D27	0VDC-01B	SIG018	TERMINAL JUMPER
D	021	01B-A02	01801B-A090	SIG009	HEATER BUS #3, 480VAC, 3PH, FLA
D	021	01B-A03	01801B-A100	SIG010	HEATER BUS #3, 480VAC, 3PH, FLA
D	021	01B-A04	01801B-A110	SIG011	HEATER BUS #3, 480VAC, 3PH, FLA
D	037	01B-D00	02701B-D190	SIG025	TERMINAL JUMPER
D	037	01B-D00	0VDC-01B	SIG026	TERMINAL JUMPER
D	029	01B-E01	02701B-D070	24VDC_ESTOP_L1	EMERGENCY STOP RELAY, 24VDC,
D	029	01B-E02	0VDC-01B	24VDC_ESTOP_L2	EMERGENCY STOP RELAY, 24VDC,
D	029	01B-E03	02701B-D070	SIG113	PLC OUTPUT SAFETY RELAY, 24VDC
D	029	01B-E08	02701B-D190	SIG119	EMERGENCY STOP INPUT
D	029	01B-E09	I-PT1.2/00	ESTOP_PLG_INPUT_RETURN	EMERGENCY STOP PLC INPUT
D	028	01B-D00	02701B-D030	24VDC_BUS_CONTINUE_L1	24VDC BUS, FLA: 40A
D	028	01B-D00	0VDC-01B	SIG118	TERMINAL JUMPER

- Introduced July 2104
 - Over 100 ideas generated
- Several incorporated into release
- Many more being considered



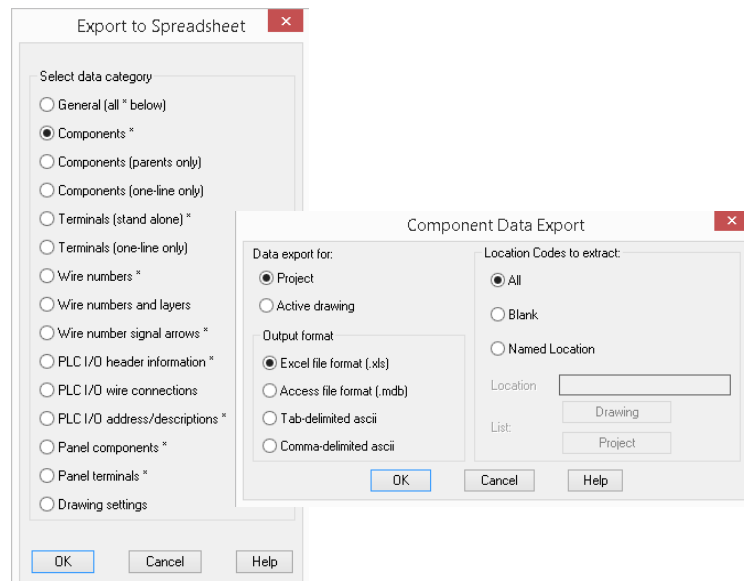
■ Multiple terminals options

- Suppress tag strip
- Suppress installation



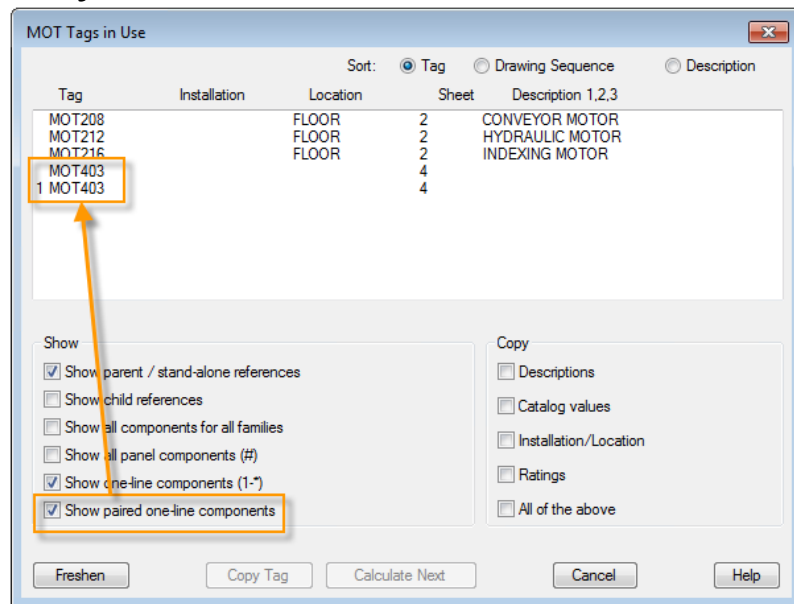
■ Export workflow

- Freshen database for export





■ Annotation of one-line symbols



Autodesk Maintenance Subscription



Customers benefit from:

- Upgrades to the latest software releases
- More cloud computing capabilities and capacity
- Flexible licensing rights
- Basic technical support

Desktop Subscription benefits

LOWEST COST OF ENTRY



EASY RAMP UP / SCALE DOWN



ACCESS TO THE LATEST TOOLS



REDUCED RISK





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