



BENTLEY® BUILDING ELECTRICAL SYSTEMS V8i FOR AUTOCAD®

COMPREHENSIVE INTELLIGENT CAD-BASED SOLUTION FOR DESIGN AND DOCUMENTATION OF BUILDING ELECTRICAL SYSTEMS FOR COMMERCIAL, INSTITUTIONAL, AND INDUSTRIAL FACILITIES

Bentley Building Electrical Systems V8i for AutoCAD is the first comprehensive intelligent CAD-based design package for electrical systems for commercial, institutional and industrial facilities.

Focused on AEC electrical design including power, lighting, fire alarm, security, communications, building automation, and other systems, Bentley Building Electrical Systems V8i for AutoCAD automates design and documentation of today's complex electrical systems. Interoperability with third party analysis programs for lighting analysis and design shortens the design/analysis process and eliminates transcription errors. Sustainable design tools ensure compliance with energy efficiency standards including ASHRAE/IESNA 90.1. Bentley Building Electrical Systems V8i for AutoCAD meets the requirements for CAD-based projects, including bi-directional compatibility with AutoCAD, MicroStation® and Revit and also provides an efficient migration path to 3D and BIM.

Automated drawing production and coordination

Instead of driving the process, design and construction deliverables are virtually a by-product of the design workflow. Design data is entered only once and re-used over and over again. Powerful features, such as automated generation of schematic diagrams and drawing legends, facilitate the rapid creation of construction drawings. Plans, sections, and elevations comply with user-definable drawing standards and rules. Coordination and consistency is maintained across all documentation.

Integrated schedules and reporting

Electrical properties and user-definable attributes associated with electrical components can be used to query the data model, to make selective or global changes to electrical equipment and non graphical information, and to generate accurate schedules and reports, such as cable and device schedules, cost estimates, panel schedules, etc.

Integration with lighting analysis

The bi-directional interface to Visual Professional Lighting Software ensures good design practices and eliminates errors associated with manual data input. Interoperability with lighting analysis is also used to calculate energy code compliance and import manufacturer's luminaire data for accurate calculations and schedules.

Building performance analysis

Combine energy analysis and lighting calculations to calculate lighting power densities in accordance with ASHRAE/IESNA Standard 90.1 using manufacturer's luminaire data for the energy calculations.

Design and modeling of electrical systems

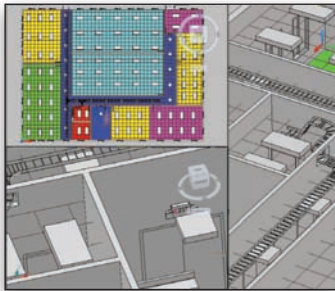
Focusing on electrical design and engineering, Bentley Building Electrical Systems V8i streamlines the design and modeling process for a variety of electrical systems, such as lighting, power, fire alarm, security, communications, and other building services. A comprehensive set of tools are provided for automated symbol placement, raceway design, cable and circuit routing, schedule generation and more, supporting a variety of design standards.

Choice of 2D, 3D or both

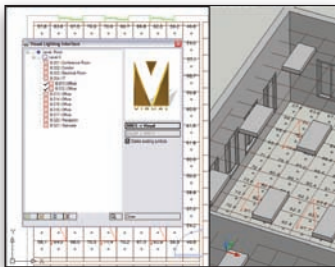
The electrical design can be created and manipulated in a traditional 2D plan or an advanced 3D model environment using the same tools and an identical interface.

Step-wise refinement of the design process

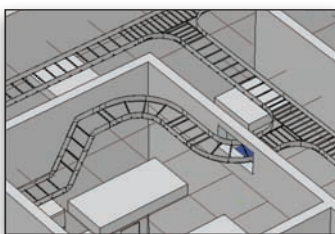
The concept of "stepwise refinement" allows design professionals to add more detailed information at different stages in the project lifecycle to support the incremental process of electrical design and to manage design changes.



Bentley Building Electrical Systems V8i for AutoCAD



Lighting analysis, light fixtures and calculation grid imported into Bentley Building Electrical Systems V8i



Raceway design

SYSTEM REQUIREMENTS

Software: AutoCAD® 2007 or higher

Processor: Intel® Pentium®-based or AMD Athlon™-based PC or workstation

Operating System: Microsoft® Windows® Vista, XP, Windows 2000

Memory: 1024 MB RAM

Disk Space: 200 MB minimum free disk space

Input Device: Mouse

Microsoft Office: Microsoft Office 97, Office 2000, Office XP, Office 2007 (Excel and Word for reporting)

Language versions are localized for language, codes, standards, and work practices

English (US ANSI/IEEE/NFPA)

ABOUT BENTLEY

Bentley Systems, Incorporated is the global leader dedicated to providing comprehensive software solutions for sustaining infrastructure. Architects, engineers, constructors, and owner-operators are indispensable in improving our world and our quality of life; the company's mission is to improve the performance of their projects and of the assets they design, build, and operate. Bentley sustains the infrastructure professions by helping to leverage information technology, learning, best practices, and global collaboration – and by promoting careers devoted to this crucial work.

For more information, visit www.bentley.com or call 1-800-BENTLEY

BENTLEY OFFICES

Corporate Headquarters

685 Stockton Drive
Exton, PA 19341 USA
1-800-BENTLEY (1-800-236-8539)
Outside the US +1 610-458-5000

Bentley Systems Europe B.V.

Wegalaan 2
2132 JC Hoofddorp
Netherlands
+31 23 556 0560

Bentley Asia

No. 1 A Jianguomenwai Avenue
Chaoyang District, Unit 406
NCI Tower Beijing 100022
+86 108 518 5220



BENTLEY BUILDING ELECTRICAL SYSTEMS V8i FOR AUTOCAD AT-A-GLANCE

Building Information Modeling

- Professional electrical design of Building Services including power distribution, lighting, fire alarm, security, communications, information technologies, and other building services
- 2D/3D design and modeling
- Design automation tools for equipment arrangement
- Circuit management
- Design + Analysis interfaces
- Room spaces and engineering zones for design and reporting
- Stepwise refinement of design
- Interoperable with AutoCAD, MicroStation, and Revit files
- Space allocation and visualization of designs
- Design data transparency and reporting
- Construction documentation

Power Distribution Systems

- Distribution equipment arrangement
- Feeder and branch circuiting
- Automated circuiting and labeling
- Online power panel schedules
- Automatic roll-up of loads
- Wiring installation methods

Lighting Systems Design and Analysis Interfaces

- Automated fixture arrangement by matrix, ceiling grid, construction line, etc.
- Automated circuiting and labeling
- Ceiling grid arrangement and snaps
- Parametric 2D/3D symbols
- Scalable schematic symbols for switches and other devices
- Bidirectional links to third party lighting analysis program Visual Professional from Acuity Brands
- Calculate as-built design from BIM model to Lighting Analysis

- Luminaire arrangement and analysis results imported from lighting analysis program
- Import data from Lighting analysis program:
 - Luminaire arrangement
 - 2D/3D fixture dimensions
 - Fixture electrical load for circuit design
 - Manufacturers' data
 - Calculation grid

Building Performance/ Energy Analysis

- Lighting and total power density calculations based on room and zone
- User-defined, colored rendering of rooms and zones in CAD
- Lighting compliance documentation based on ASHRAE/IESNA Std. 90.1

Fire Alarm Systems

- Fire alarm systems arrangement
- Zone definitions for fire protection, PA, emergency egress, and others
- Device arrangement by protection zones/coverage area
- Automated schematic generation from model

Circuit Management

- Define, edit, and manage circuits by system and distribution panel
- Assign cables for wiring
- Define wiring installation types
- Route circuits and connect devices
- Circuit routing modes:
 - Straight line
 - Orthogonal
 - Actual raceway route
- Calculate circuit load, length, and number of devices
- Route circuits in raceway
- Link circuits to other DWG files in the project
- Calculate and update circuit labels

Electrical Raceway Design

- Raceway systems design and 3D modeling:
 - Cable tray – ladder and solid bottom
 - Conduit
 - Busway
 - Wireway
 - Underfloor raceway systems
 - Other raceway systems
- Parametric raceway engine with comprehensive catalogs
- Calculations:
 - Raceway length
 - Cable fill
 - Weight
- Circuit routing

Symbol Manager

- Create, edit, and manage electrical 2D/3D symbols
- Standards support and delivered libraries:
 - ANSI/IEEE/NFPA
- User-definable 2D and 3D symbols
- Symbol size options including factor, scale, and user-defined
- Define IFC classes
- User-definable layers
- Device classes with load, wiring configuration, power factor, demand factor, and so on
- Symbol group definition with available systems

Coordinated Construction Documentation

- Plans, sections, and elevations
- Panel, circuit, and device schedules
- Bill of materials, quantity takeoffs, and other reports
- Compatibility with office automation tools for further processing and formatting

Panel	Equipment	Power (VA)	Lighting	Other	Total	Demand
A	200	1500	0	0	1700	1000
B	0	100	1000	0	1100	700
C	0	0	0	0	0	0
Total	200	1500	1000	0	4000	2000

Online Panel Schedule in Cable Manager



Power density calculation, colored rendering