



BENTLEY® INSTRUMENTATION & WIRING

AN INTUITIVE, POWERFUL TOOL FOR PROCESS PLANT CONTROL SYSTEM DESIGN

Bentley® Instrumentation and Wiring (I&W) is the ideal tool for creating project instrumentation loop diagrams, panel termination diagrams, motor schematics, single line diagrams and Foundation Fieldbus Segment diagrams.

Drag & Drop Graphical Interface

By combining an intuitive drag & drop graphical interface with a fully integrated relational database, users can efficiently manage all project control system data. Bentley Instrumentation & Wiring utilizes an independent graphics engine to generate drawings in a DGN, DWG or DXF format and the built-in reporting engine quickly generates instrument, cable, termination, I/O, motor and other essential project specific reports. Developed by experienced instrumentation engineers, Bentley Instrumentation & Wiring is the ideal tool for EPC I&C engineers and designers as well as Owner Operators.

Fast, Accurate Data Entry

The standard interface of I&W is user-friendly, with menu-driven, context sensitive online help features. SQL based views allow users to create pick lists for any cell in a view reducing data entry errors and ensuring consistency. The filter, sort, find & replace commands provide quick access to project data, while the property sheet allows users to quickly update multiple records.

Intuitive Connection Interface

The Layout Designer interface provides an intuitive drag, drop and right-click interface for modelling all your project cable and wiring connections. Components such as instruments, motors, cables and panels can be dragged onto layouts and the connections modelled via right click menu options. A layout may show all instruments in a project or the layouts may be broken down into individual loops, areas or processes. The same components may also be displayed on multiple layouts. Layouts can be printed to pdf to create simple block cable diagrams if desired.

Multiple Reporting Capabilities

Bentley Instrumentation & Wiring comes with many predefined reports. These include; instrument lists, cables schedules, panel lists, termination and wiring list, motor and I/O lists. All the reports within Instrumentation & Wiring are generated using

the built-in Microsoft Access reporting engine. Users can easily edit these to meet project format requirements, or simply add new reports.

Multiple Drawing Types & File Formats

Bentley I&W's built-in drawing engine allows users to generate drawings for instrument loops, fieldbus segments, panels and motors. These drawings can be automatic "quick" connection drawings in PDF format, or C.A.D files utilizing the AutoGen, Composite and Template drawing creation functionality within I&W. All the C.A.D. drawings can be produced in DGN, DWG or DXF file formats. No AutoCAD license is required to generate DWG drawings.

Building from Standards Libraries

Users can store re-occurring designs as project standards. A common loop configuration that is repeated many times on a project can be designed and then saved as a project standard. The use of project standards applies to loops, segments, motors and panels as well as individual terminal strips and devices. Standards are project specific, but users can select a standard created in a different project.

Hook Ups

Process and pneumatic instrument hook ups – or installation details – can be created from Bentley I&W via the Hook Ups module. Hook Up sheets are created in Microsoft Excel format and from these bills of materials for installation can be created for individual or multiple hook ups. The Hook Ups module is now an integral part of I&W and not a separate licensed module.

Datasheets and Specification Sheets

Datasheets and specification sheets can be created from I&W by the integration with the Bentley Datasheets module. Datasheets are created in Microsoft Excel format and synchronization with the project database is automatic to ensure data consistency.



Multiple drawing types & formats DGN, DWG, DXF & PDF



Layout Designer, an intuitive drag, drop & right-click interface for modelling connections



Pre-defined, user customizable data entry grids out-of-the-box

BENTLEY INSTRUMENTATION & WIRING SYSTEM REQUIREMENTS

Processor:

Intel Pentium 4 3.0GHz or greater

Operating System:

Microsoft Windows XP Professional SP2 or later, Microsoft Windows Vista (32bit) SP1, Microsoft Internet Explorer 5 or greater

Memory:

1GB minimum

Hard Disk:

2GB minimum free hard disk space

Input Device:

Any industry-standard input device supported by Windows

Output Device:

Any industry-standard output device supported by Windows

Video Graphics Card:

1280 x 1024 32-bit color video display adapter (true color) 128 MB or greater, OpenGL, or Direct3D capable workstation class graphics card. For Windows Vista, a Direct3D capable workstation class graphics card with 128 MB or greater is required video card/monitor

- MicroStation® V8i or
- AutoCAD 2009
- For template & symbol editing only
- Document Management Systems Bentley ProjectWise V8i (8.11.5)
- Microsoft Office Professional 2003 SP3 or 2007 SP1. Required for reporting and Datasheet/Hook Up creation.
- Bentley Plant Framework V8i (8.11.5)

Databases:

MS Access 2003 or 2007 single user only, SQL Server Express 2005, SQL Server 2005, Oracle10g or 11g

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

BENTLEY INSTRUMENTATION & WIRING AT A GLANCE

Integrated Database

- Part of the Bentley® Process & Instrumentation V8i Workgroup
- Seamless data flow between functional & physical design solutions
- Access to all instrumentation & electrical data
- Used by all E&I designers and engineers
- Create plant control system design deliverables
- Consistency of data ensured
- Instant updates
- No import or export required
- Data always up-to-date
- Microsoft Access macros to automate tasks
- Create catalog tables for parts

User Friendly Interface

- Standard Windows-based interface
- Works with XP or Vista
- Support for Microsoft Access, SQL Server Express, SQL Server and ORACLE
- Links to external databases from the project environment via ODBC
- Field level user access control
- Right-click data manipulation
- Sort, Filter, Find & Replace data
- Add, Edit & Delete tags
- Cut, Copy & Paste data
- Multiple tag update
- Drag, drop & right-click graphical interface for modelling connections

Customizable Views

- Out-of-the-box multi-discipline customizable views
- Create new project specific views
- Create SQL-based catalog table pick lists
- Reference data from external sources
- Manipulate all project data

- Uses Microsoft Access query engine
- Supports Office 2003 & 2007

Quick Report Generation

- Out-of-the-box multi-discipline reports
- All out-of-the-box reports customizable
- Create new project specific reports
- Reference data from external sources
- Uses Microsoft Access reporting engine
- Supports Office 2003 & 2007

Project Standards

- Create Loop, Segment, Motor, Panel and I/O Panel standards
- Create standards for terminal strips and devices
- Batch create loops from standards
- Use standards from legacy projects
- Share standard between multiple projects
- Save design time by using standards

Multiple Deliverable Types and Formats

- Loop, Segment, Panel and I/O Card Termination drawings
- Motor Schematic, Termination and Single Line drawings
- DGN, DWG, DXF, PDF drawing deliverables
- Automatic Connection drawings
- AutoGen CAD drawings
- Template based CAD drawings
- Composite CAD drawings (part AutoGen, part Template)
- Reports in PDF or SNP format
- Datasheets and Hook ups in XLS format
- No AutoCAD license required
- Supports AutoCAD 2006 to 2009
- Check in/out of ProjectWise® V8i

Import & Export Data

- Import legacy data at project startup
- Import & Export data to & from 3rd party applications
- Supports; MDB, XLS, TXT, DBF & ODBC data sources
- Export via user-defined views to control the data exported
- Import data from FEED solutions

Datasheets

- Integrated with Bentley® Datasheets V8i
- Create Process, Mechanical, Instrument and Electrical datasheets
- Used by all project disciplines
- Microsoft Excel (XLS) format
- Supports Office 2003 & 2007
- Bulk datasheet creation
- Automatic synch with project database
- Update via database or datasheet
- 3rd party updates possible via Excel
- 3rd party updates synchronized with database
- User control over data synchronization
- Single or multi-tag datasheets
- Changes highlighted on datasheet
- Check in/out of ProjectWise V8i

Hookups

- Integrated with Bentley® Hookups V8i
- Create Process or Pneumatic Instrument hookups
- Microsoft Excel (XLS) format
- Supports Office 2003 & 2007
- Automatic synch with project database
- Generate installation bill of materials
- Check in/out of ProjectWise V8i

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