

DDS-CAD Building

All DDS-CAD modules have a set of basic features called 'DDS-CAD Building'. With this genuine Open BIM solution you use a complete system that is independent of third party tools such as AutoCAD, Revit, Bentley and other applications. DDS-CAD Building is equipped with a fully integrated and certified Open BIM interface and provides the ideal basis for an intelligent and multi-disciplinary data exchange with architects, structural engineers and other project stakeholders.

Intelligent BIM/CAD core

Stand-alone intelligent BIM/CAD core that runs on Windows 10 64-bits

Network and server compatible as well as multi-user enabled on a project level

Multi-discipline project management

Multi-window technology, any number of models and views (2D, 3D, cross-section etc.)

Import and export of all popular formats such as IFC, DXF, DWG, 3D DWG, PDF, 3DS, JPG and PNG

Integrated BCF manager supporting file and cloudbased intelligent issue coordination and communication

Export of IFC and DWG models with extra classification systems (e.g. Omniclass)

Fully integrated DWG/DXF editor with intelligent object mapper

Scale independent design and plot functions in 2D and 3D

Intelligent and associative object dimensioning

Intelligent generic and parametric 2D and 3D product databases

Automatic realistic height presentation of overlapping objects in top view (OpenGL)

Freely definable cross-sections, part models and elevations in 2D and 3D

Flexible zone function for freely defining individual functional units

Intelligent control and navigation with 3D mouse from 3Dconnexion

Automatic multi-discipline management of layers and pens

Plot lay-outs with automatic update, independent layer structure and flexible scale selection

Automatic plot legends and title fields

Automatic sorting of parts lists according to building, storey and room

DDS-CAD Building

Intelligent building model

Flexible and easy planning of floor plans and building models in 2D and 3D

Extensive selection of intelligent and flexible 2D and 3D components

Automatic room recognition from DWG/DXF files, including windows, doors and room labels

Intelligent bi-directional Open BIM data exchange via IFC (ISO 16739)

Different presentation options for rendered 3D models

Comprehensive configurable clash detection engine for the MEP, structural and architectural disciplines

Easy editable building model in case of architectural changes

Intelligent design of suspended ceilings, roof windows, roofs and dormers

Intelligent and dynamic generation of opening elements with automatic labeling

Model-based coordination for provision for voids based on IFC

Automatic and configurable room labels

Automatic calculation of room surfaces and volumes, including roofs and dormers

Easy merging of complete building model including all disciplines for presentation and controlling

IFC and gbXML export for energy performance and other building simulations

Add-on modules for DDS-CAD Building

DDS-FR	Escape and rescue plans
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DDS-UHL	U-value and heat load calculation according to EN 12831
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DDS-WRL	Small retail and residential controlled ventilation systems
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DDS-AR	Advanced rendering, sun animation and video
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DDS-CON	Opening, viewing and controlling of DDS-CAD projects
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DDS-ND	Additional charge for network licensing (calculated over total license price)
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DDS-CAD Sanitary & Heating

Includes all features from DDS-CAD Building

02 10

Intelligent BIM/CAD core (for details see page 1)	●	●
Intelligent building model (for details see page 2)	●	●

Discipline specific features

02 10

Integrated design of sanitary, heating, cooling, gas, fire hydrant and sprinkler systems	●	●
Intelligent pipe network design with automatic object connection	●	●
Flexible representations of the pipe network: single line, double line with insulation, flood fill and 3D	●	●
Intelligent storey logic for pipe network connections via ceiling and floor	●	●
Associative and freely configurable labeling of objects and pipe segments	●	●
Automated model quality checks, cross-discipline collision detection and real-time clash prevention	●	●
Flexible creation of line and system diagrams with symbols according to EN 12792	●	●

Integrated calculations

02 10

U-value and heat load calculation according to EN 12831	●	●
Intelligent radiator design and automatic room placement according to EN 442	●	●
Flexible planning and calculation of underfloor heating system fields according to EN 1264	●	●
Pressure loss calculation, automatic dimensioning and hydraulic balancing of heating and cooling systems	●	●
Automatic update of associative labeling on pipe systems after calculation	●	●
Pressure loss calculation, automatic dimensioning and hydraulic balancing of potable water systems		●
Calculation of centralized and decentralized hot water systems, as well as a combination with multiple boilers		●
Calculation of temperature drop in circulation and of stagnant water and waiting time in hot water pipes		●

Add-on module for DDS-CAD Sanitary & Heating

SH-RBS	Waste water system calculation according to EN 12056	
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DDS-CAD Ventilation

Includes all features from DDS-CAD Building

02 10

Intelligent BIM/CAD core (for details see page 1)	●	●
Intelligent building model (for details see page 2)	●	●

Discipline specific features

02 10

Integrated design of climate and ventilation systems	●	●
Flexible planning of round, oval and rectangular duct systems, also in combination	●	●
Intelligent duct network design with automatic object connection	●	●
Flexible representation of the duct network: double line with insulation, flood fill and 3D	●	●
Intelligent storey logic for duct network connections via ceiling and floor	●	●
Automatic connection of air terminals and mounting height control	●	●
Flexible creation of line and system diagrams with symbols according to EN 12792	●	●
Associative and freely configurable labeling of objects and duct segments	●	●
Automated model quality checks, cross-discipline collision detection and real-time clash prevention	●	●

Integrated calculations

02 10

Consideration of mechanical ventilation systems in the heat load calculation according to EN 12831	●	●
Air flow specification and calculation of mechanical supply and extract air on individual room level	●	●
Automatic adjustment of all air terminals in the building taking into account the room air flow	●	●
Design and calculation of controlled ventilation systems according to DIN 1946-6	●	●
Definition of ventilation zones and usage units plus consideration of multiple ventilation systems in a building	●	●
Fully automatic updating of flexible labeling for duct work based on calculation results	●	●
Pressure loss calculation with hydraulic adjustments for dampers and air terminals	●	●
Nominal and balanced pressure loss calculation with automatic dimensioning and flow control		●
Configurable velocity and dimensioning specification per duct segment		●
Visual presentation of air velocity tolerances after system calculation		●

Add-on modules for DDS-CAD Ventilation

KL-VOB	Automatic reporting of duct sheet metal output according to VOB DIN 18379
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DDS-CAD Electrical

Includes all features from DDS-CAD Building	02	10	11
Intelligent BIM/CAD core (for details see page 1)	●	●	●
Intelligent building model (for details see page 2)	●	●	●
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Discipline specific features	02	10	11
Complete 2D and 3D electrical design features for: - Low voltage, electromobility, PA, aerial, measuring & control, movement and presence detector system - Lighting design, KNX, data, telephone, nurse call and intercom systems - Fire, security and alarm systems, video surveillance and access control	●	●	●
Intelligent multi-storey design of cable management systems: cable ladders, trays, ducts, conduits and floor trunking	●	●	●
Bi-directional interface with DIALux and Relux for advanced light calculations	●	●	●
Simulation and planning of detection areas for movement and presence detectors	●	●	●
Design of lightning protection and earthing systems as well as equipotential bonding	●	●	●
Intelligent circuit selection with circuit and component dimensioning	●	●	●
Diversity factor for determination of load performance per circuit and distributor supply	●	●	●
Intelligent multi-storey cable and cable trunking function with automatic cable length calculation	●	●	●
Automatic calculation of end component performance over sub distributors up to the main supply	●	●	●
Voltage drop calculation with automatic real-time load calculation	●	●	●
Automated model quality checks, cross-discipline collision detection and real-time clash prevention	●	●	●
Control function for non-connected components	●	●	●
Associative and freely configurable component, cable and circuit labeling	●	●	●
Automatic and fully configurable legends	●	●	●
Intelligent exchange between model and distributor database; automatic update of electrical diagrams	●	●	●
Automatic system diagrams for power supply, fire detection, emergency lighting and data network systems			●
Bi-directional intelligent KNX interface to ETS via the app 'ProjectDataExchange' from IT GmbH			●
Intelligent exchange of 3D building model with KNX components to visualization software Elvis			●

DDS-CAD Electrical

Distribution board documentation		02	10	11
Automatic creation and update of sheet, revision and circuit lists		●	●	●
Automatic creation and update of single line circuit diagrams		●	●	●
Bi-directional interface with test and measurement equipment from GMC-I		●	●	●
Extensive technical database with intelligent symbols, components and circuit macros		●	●	●
Flexible presentation and intelligent configuration options for sheets and circuit diagrams		●	●	●
Automatic numbering of components and terminals including cross-referencing		●	●	●
Automatic visual warning of under dimensioned components		●	●	●
Automatic prevention of double connections for contacts, components and terminals		●	●	●
Automatic creation and update of multi-line circuit diagrams			●	●
Complete distribution board layout design in 2D and 3D			●	●
Automatic distributor views (side, interior, door, 3D view), punch patterns, mimic diagrams			●	●
Automatic tabular patch panel overview for network and data systems			●	●
Intelligent KNX layouts for automatic circuit diagrams and overview of modular devices				●
Graphical PLC card overview with automatic cross-referencing of inputs and outputs				●
Creation of measurement, control and regulation technology diagrams and data network cabinet views				●

Add-on modules for DDS-CAD Electrical

EL-AS	Automatic system diagrams for power supply, fire detection, emergency lighting and data network systems (included in EL-11)
DDS-PS	Polysun Inside

DDS-CAD PV

Includes all features from DDS-CAD Building

DDS-CAD PV contains the basic function package 'Intelligent BIM/CAD core' and applicable functions for PV planning from the package 'Intelligent building model' (for details see page 3 and 4).

Intelligent PV system design

High quality and flexible planning of PV systems in 2D and 3D

Database including generic mounting systems

Visualization of the course of the sun and shading

Photorealistic presentation with sun animation and video output

Flexible system design: on-roof, in-roof, facade and ground mounted

Generation of roof layout, system schematic and string diagram

Freely definable cross-sections, elevations and part models

Configurable parts list by area, building, etc.

Production of assembly and installation plans in DWG, DXF and PDF

Scaled plotting and printing of output documentation

Polysun Inside

Integrated database with global climate data of over 8.000 weather stations

Online access to Meteonorm horizon lines and possibility to import from third party systems (e.g. SunEye)

Calculation of weather data for user-defined locations

During the simulation; update of the sun's position every 4 minutes

Detailed shading visualization

Comprehensive and up to date product database for PV modules and inverters

Automatic inverter assignment for PV fields

Connect differently oriented PV fields on a single multi-tracker inverter

Yield estimation with dynamic simulation taking into account module warming and reactive power

Extensive self-consumption profiles: comparison between yield and self-consumption

Dimensioning and editing of PV modules with respect to module area and orientation

Automatic overview and report of yield estimation results

DDS-CAD PV

DDS-PV	BIM core, building model and PV system design
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DDS-PS	Polysun Inside
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DDS-CAD Lightning Protection

Includes all features from DDS-CAD Building

DDS-CAD Lightning Protection contains the basic function package 'Intelligent BIM/CAD core' and applicable functions for lightning protection planning from the package 'Intelligent building model' (for details see page 1 and 2).

Intelligent 3D lightning protection design

High quality and flexible design of external lightning protection systems in 2D and 3D

Assembly and installation plans including automated planning of mounting and retaining systems

Use of 2D and 3D lightning balls for rolling sphere method on 3D building model

Freely definable cross-sections, elevations and part models

Configurable parts lists by title, area, building, etc.

Production of assembly and installation plans in DWG, DXF and PDF

Scaled plotting and printing of output
