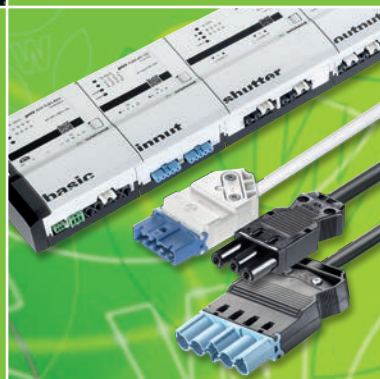


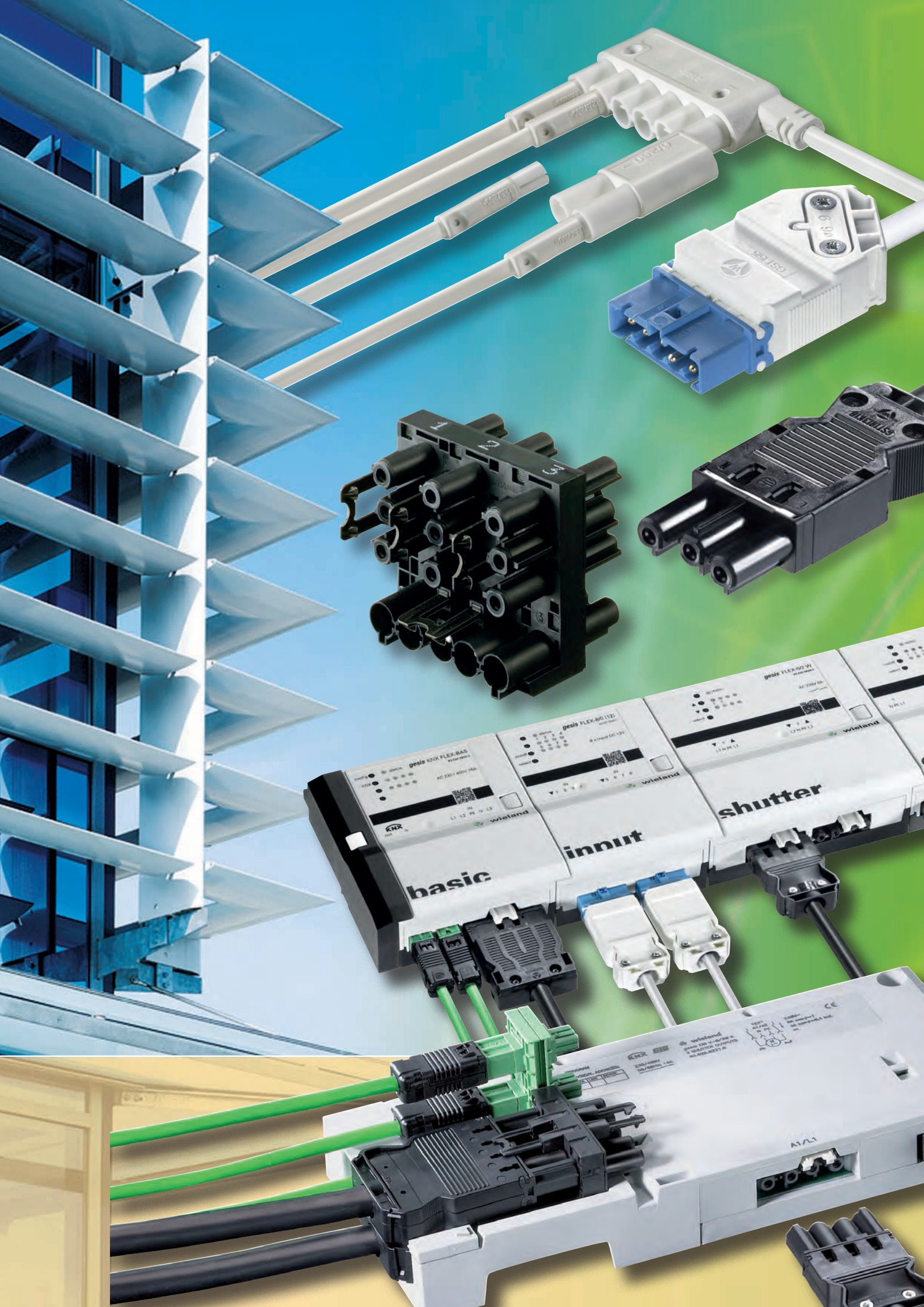


***smart* Installation**

Pluggable, decentralized
electrical installation
for sustainable building

Building a green future.





smart Installation with Wieland. Table of contents.

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Green buildings in electrical installation.

smart Installation concept.

The EPBD (Energy Performance of Buildings Directive) is restricted only to the energetic aspects of a building, which reflect in the mandatory energy pass, for example. Investors and users, however, place more and more focus on holistic sustainability. Basic ecological, economical and functional data, which are not depicted in the EPBD, are also used for the evaluation.

These criteria are generally hard to evaluate by the investor or tenant. Within the last years, improvements have been made in this respect, due to the development of various certification systems, which independently evaluate the sustainability of a building for a comparison. Two systems have currently established themselves on the German/European market. On the one hand, the LEED (Leadership in Energy and Environmental Design) by the USGBC (U.S. Green Building Council) originally from the US and, on the other hand, the DGNB (German Sustainable Building Council).

Even if the main focus of both systems are different, *smart* installation concepts with **gesis** help improve the sustainability of a building in many areas. Regardless of whether aiming at increasing energy efficiency or flexibility of use, Whether focusing on supply or decentralized automation of the user. **gesis** supports you in achieving your certification target.

Certification procedure?

Green building certification is voluntary, as opposed to meeting the EPBD and issuing the energy pass. The project will be certified by the respective organization. Generally, construction and renovation projects are already accompanied by qualified auditors at an early stage, which ensures, that the targeted certification level is reached. The actual certification is then performed via point systems using checklists.

Pluggable, decentralized power supply with **gesis**®

The *smart* Installation concept with consistent three-phase power supply as close to the consumer as possible, not only saves copper, but the voltage drop is also reduced. This favors the evaluation criteria EA-1 (optimizing the energy efficiency) for LEED certification as well as points 16 (building-related costs in the life cycle) and 17 (stability of value) for DGNB certifications.

Furthermore, the pluggable and reusable version of the installation has positive effects. The assessment regarding reuse of building materials (5%/10%, MR-3.1/MR-3.2) from the LEED check lists can be improved. Clearer still are the advantages in the case of a DGNB certification, where not only the assessments from the areas socio-cultural and functional quality (point 28) or technical quality (point 42) are improved;



DGNB certificate



LEED certificate
Platinum



LEED certificate
Gold



due to the industrial pre-fabrication of large parts of the electrical installation, the process quality and the quality assurance of the building construction (point 50) are optimized.

Finally, the planning process accompanying the *smart* Installation concepts has a positive impact on the overall evaluation. On the one hand, credits for the LEED system can be scored for innovative planning (ID 1.1-1.5) which is not possible with a conventional electrical installation from a central main-distribution. On the other hand, points 43-45 (process quality / quality of planning, quality of project preparation (43), integral planning (44), optimization and complexity of the planning approach) are improved.

Decentralized building automation with *gesis*[®]

Designing the building automation as *smart* Installation yields further results favorable for certification. The energy consumption, for example, can be minimized, which is a minimum requirement of the LEED system (point EA-P2). For the DGNB the ecological quality is an intrinsic priority, which can be improved in points 1-5 (effect on global and local environment) due to the lower primary energy consumption when using *gesis* ELECTRONIC.

LEED Checklist			
Sustainable Sites			26
P 1	Construction Activity Pollution Prevention	R	
C 1	Site Selection	1	
C 2	Development Density and Community Connectivity	5	
C 3	Brownfield Redevelopment	1	
C 4.1	Alternative Transportation - Public Transportation Access	6	
C 4.2	Alternative Transportation - Bicycle Storage and Changing Rooms	1	
C 4.3	Alternative Transportation - Low-Emitting and Fuel-Efficient Vehicles	3	
C 4.4	Alternative Transportation - Parking Capacity	2	
C 5.1	Site Development - Protect or Restore Habitat	1	
C 5.2	Site Development - Maximize Open Space	1	
C 6.1	Stormwater Design - Quantity Control	1	
C 6.2	Stormwater Design - Quality Control	1	
C 7.1	Heat Island Effect - Non-roof	1	
C 7.2	Heat Island Effect - Roof	1	
C 8	Light Pollution Reduction	1	
Water Efficiency			10
P 1	Water Use Reduction - 20% Reduction	R	
C 1.1	Water Efficient Landscaping - Reduce by 50%	2	
C 1.2	Water Efficient Landscaping - No Potable Water Use or Irrigation	2	
C 2	Innovative Wastewater Technologies	2	
C 3	Water Use Reduction	4	
Energy & Atmosphere			35
P 1	Fundamental Commissioning of Building Energy Systems	R	
P 2	Minimum Energy Performance	R	
P 3	Fundamental Refrigerant Management	R	
C 1	Optimize Energy Performance	19	
C 2	On-Site Renewable Energy	7	
C 3	Enhanced Commissioning	2	
C 4	Refrigerant Management	3	
C 5	Verification	2	
Materials & Resources			14
C 1	Recycled Content	2	
C 2	Low-VOC Content	2	
C 3	Low-VOC Content	2	
C 4	Low-VOC Content	2	
C 5	Low-VOC Content	2	
C 6	Low-VOC Content	2	
C 7	Low-VOC Content	2	
C 8	Low-VOC Content	2	
C 9	Low-VOC Content	2	
C 10	Low-VOC Content	2	
C 11	Low-VOC Content	2	
C 12	Low-VOC Content	2	
C 13	Low-VOC Content	2	
C 14	Low-VOC Content	2	
C 15	Low-VOC Content	2	
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C 96	Low-VOC Content	2	
C 97	Low-VOC Content	2	
C 98	Low-VOC Content	2	
C 99	Low-VOC Content	2	
C 100	Low-VOC Content	2	

DGNB Checkliste			
Haupt-Kriterien-Gruppe	Kriterien-Gruppe	Nr. Kriterium	max. Punkte
Ökologische Qualität	Ökobilanz	1 Treibhauspotenzial (GWP)	10
		2 Ozonschichtbelastungspotenzial (ODP)	10
		3 Oberflächengleichgewichtspotenzial (POCP)	10
		4 Versauerungspotenzial (AP)	10
		5 Überdüngungspotenzial (EP)	10
		6 Reizstoffe für die lokale Umwelt	10
		8 nachrichtl. Ressourcenverwendung	10
		9 Mikroklimate	10
		10 nicht erneuerbarer Primärenergiebedarf	10
		11 Gesamtprimärenergiebedarf und Anteil erneuerbarer Primärenergie	10
Ökologische Qualität	Wirkungen auf die globale und lokale Umwelt	12 Treibhausgasemissionen	10
		13 Treibhausgasemissionen	10
		14 Flächeninanspruchnahme	10
		15 Flächeninanspruchnahme	10
		16 gebäudebezogene Kosten im Lebenszyklus	10
		17 Drittvermeidungsfähigkeit	10
		18 thermischer Komfort im Winter	10
		19 thermischer Komfort im Sommer	10
		20 Innenraumklima	10
		21 akustischer Komfort	10
Ökologische Qualität	Gesundheit, Wohlbefinden und Nutzerzufriedenheit	22 visueller Komfort	10
		23 Einflussnahme des Nutzers	10
		24 gebäudebezogene Außenraumqualität	10
		25 Sicherheit und Störfaktoren	10
		26 Barrierefreiheit	10
		27 Flächeneffizienz	10
		28 Umnutzungsfähigkeit	10
		29 ästhetische Zugänglichkeit	10
		30 Fahrradkomfort	10
		31 Sicherung der gestalterischen und identitätsstiftenden Qualität im Wettbewerb	10
Ökologische Qualität	Bestandteile der Qualität der Bauteile	32 Kunst am Bau	10
		33 Brandschutz	10
		34 Schallschutz	10
		35 Wärme- und feuchteschutztechnische Qualität der Gebäudeteile	10
		36 Wärme- und feuchteschutztechnische Qualität der Gebäudeteile	10
		37 Wärme- und feuchteschutztechnische Qualität der Gebäudeteile	10
		38 Wärme- und feuchteschutztechnische Qualität der Gebäudeteile	10
		39 Wärme- und feuchteschutztechnische Qualität der Gebäudeteile	10
		40 Wärme- und feuchteschutztechnische Qualität der Gebäudeteile	10
		41 Wärme- und feuchteschutztechnische Qualität der Gebäudeteile	10
Ökologische Qualität	Prozessqualität	42 Rückbaufähigkeit, recyclingfreundlichkeit, Demontagefreundlichkeit	10
		43 Qualität der Projektvorbereitung	10
		44 integrale Planung	10
		45 Optimierung der Konzepte in der Planung	10
		46 Nachweis der Nachhaltigkeitsaspekte in der Ausschreibung und Vergabe	10
		47 Schaffung von Voraussetzungen für eine optimale Nutzung und Bewirtschaftung	10
		48 Bauteile, Bauprozess	10
		49 Qualität der ausführenden Firmen	10
		50 Qualität der Bauteile	10
		51 systematische Informationsaufnahme	10
Ökologische Qualität	Standortqualität	52 Risiken am Standort	10
		53 Verhältnisse am Standort	10
		54 Lage und Zustand von Standort und Umfeld	10
		55 Verkehrsanbindung	10
		56 Nähe zu nutzungsspezifischen Einrichtungen	10
		57 anliegende Medien, Erschließung	10
		58 anliegende Medien, Erschließung	10
		59 anliegende Medien, Erschließung	10
		60 anliegende Medien, Erschließung	10
		61 anliegende Medien, Erschließung	10

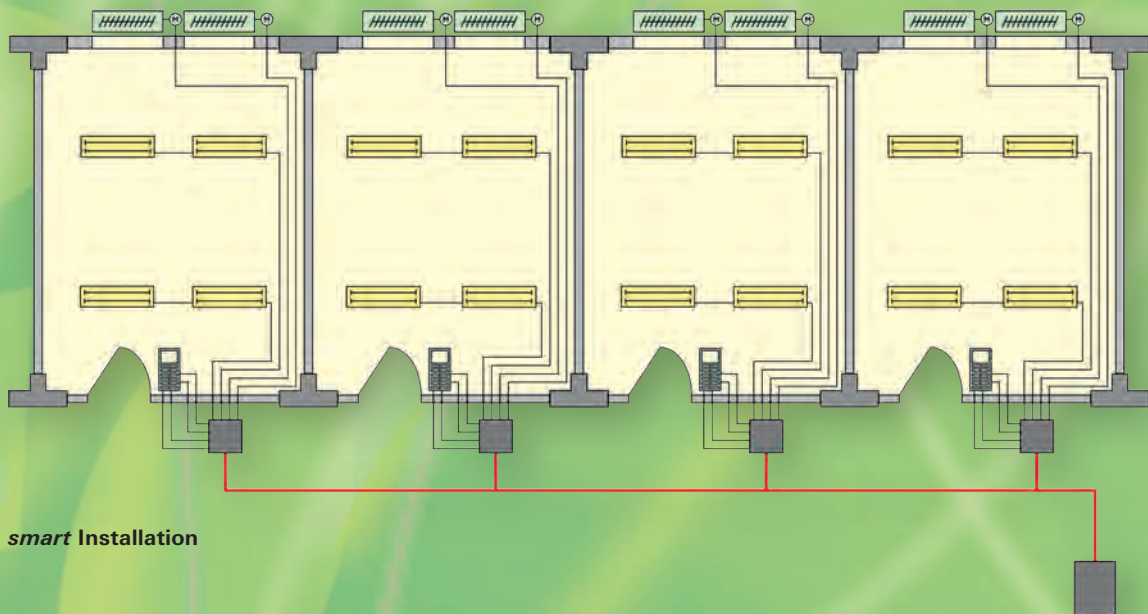


LEED certificate
Silver

▲ Many criteria of the certification systems are positively influenced by *gesis* CON and *gesis* ELECTRONIC.



Conventional installation



smart Installation

▲ The clear structures of a *smart* Installation are evident and improve the energy balance of a building.



gesis® NRG
the flexible busbar for efficient infrastructure cabling



gesis® RAN
the project-specific distribution unit for *smart* Installation



gesis® CON – pluggable sustainability.

Advantages of a distributed electrical installation.

Cabling based on *smart* Installation concepts creates clear installation structures. In combination with the pluggability this leads to a quickly and safely installable system.

Cost reduction after the initial installation also occurs for maintenance and change of use during the life cycle of the building.

Due to the consistent three-phase wiring up to just before the consumer also reduces the voltage drop which increases the energy efficiency.

Advantages distributed:

- lower voltage drop due to three-phase current up to just before the consumer
- smaller main-distribution/utility rooms
- reduced copper demand
- structured cabling

Advantages pluggable:

- less prone to errors
- safe installation
- industrially pre-assembled quality
- flexible
- reusable
- faster installation
- structured cabling

Conclusion:

Reduced energy consumption and costs in construction phase and life cycle of a building.



gesis® CON

the pluggable electrical installation for floor-boxes, lighting, ...



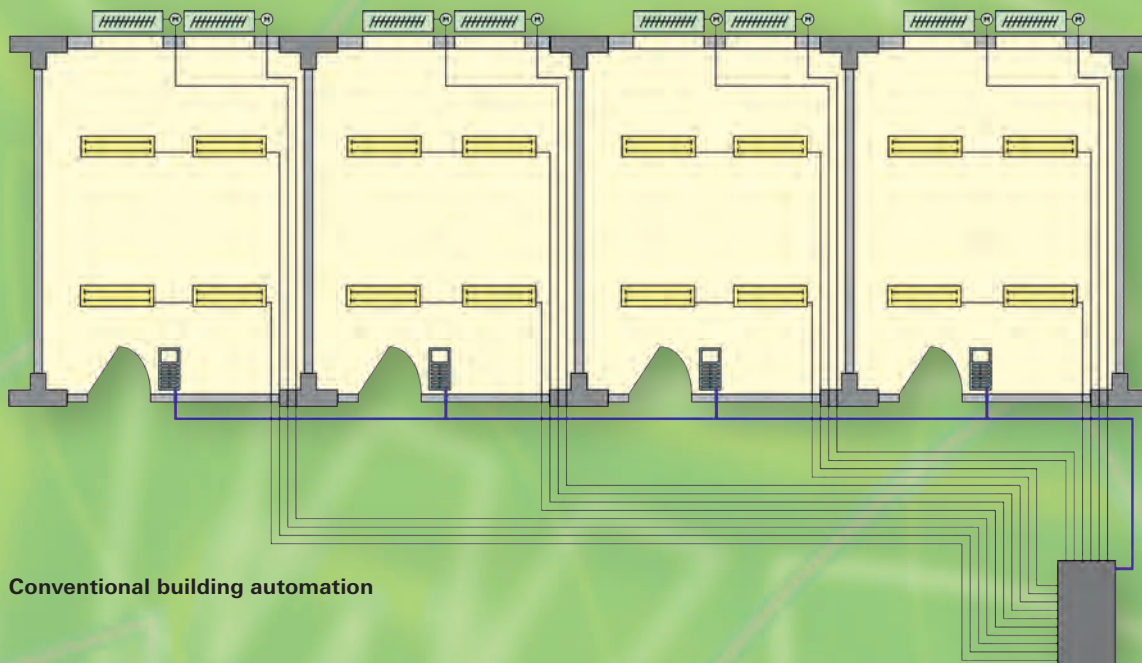
gesis® MINI

the size optimized version for limited space

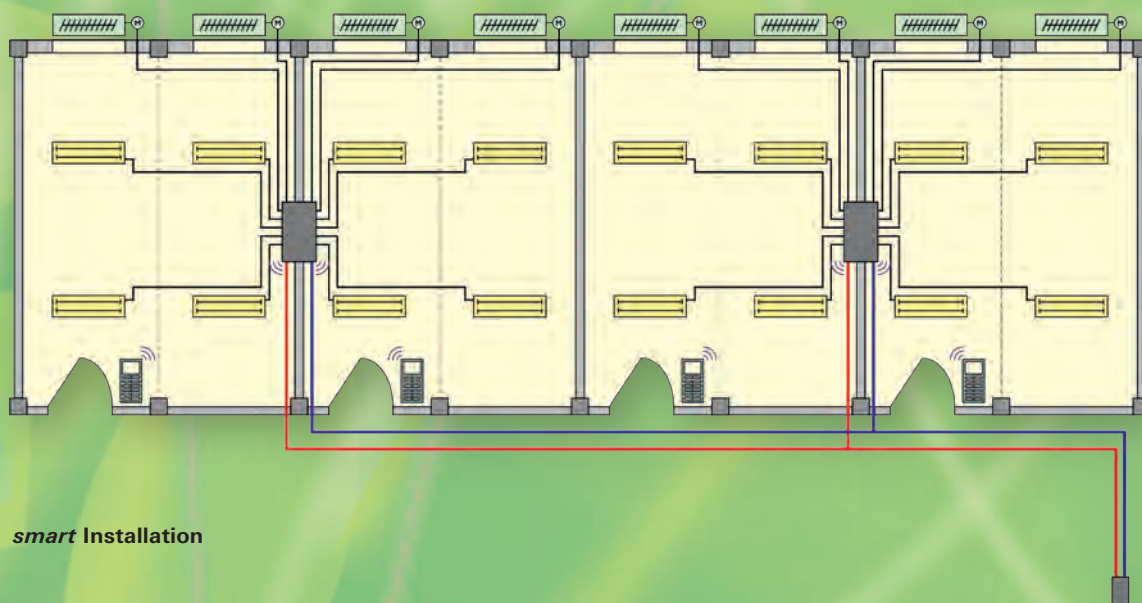


gesis® MICRO

the miniaturized version for lamps of the future



Conventional building automation



smart Installation

▲ The decentralized structures of a *smart Installation* are evident and further increase the space efficiency of a building.



gesis® RC
batteryless radio technology
for wireless sensors



gesis® EIB V
flat, pluggable KNX actuators
for limited space



gesis® ELECTRONIC – pluggable energy efficiency. Advantages of distributed building automation.

Modern automation systems reduce the primary energy consumption of a building. *smart* Installation concepts additionally implement the basic idea of a bus-based system by placing the components close to the consumers.

In combination with pluggability this leads to a flexible system whose functionality can be adapted quickly and easily to change of use throughout the life cycle of a building.

A consistent implementation can also improve the space efficiency of a building due to smaller utility rooms.

Advantages distributed:

- smaller main-distribution/utility rooms
- considerably reduced wiring expenses
- reduced copper demand
- safety (to some extent fully functional during a bus failure)
- flexible to change of use
- structured cabling

Advantages pluggable:

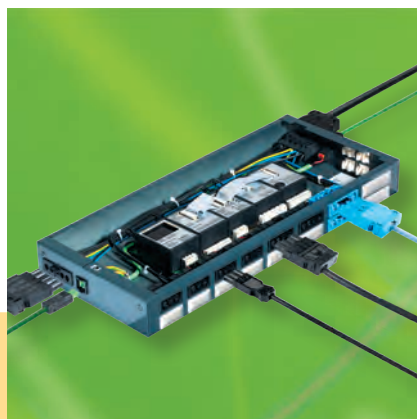
- less prone to errors
- safe installation
- industrially pre-assembled quality
- flexible
- reusable
- faster installation
- structured cabling

Conclusion:

Reduced energy consumption and costs in construction phase and life cycle of a building.



gesis® EIB M2
the modular, pluggable KNX system
for maximum flexibility on site



gesis® RM
the modular, project-specific system
for KNX and LON



gesis® FLEX
the decentralized KNX system for
sustainable room automation

Awarded "platinum". Reference "An den Brücken", Munich.



Building MK1 at Arnulfpark in Munich is the first office building in Germany awarded platinum according to LEED V3.0. The neighboring building MK2 was awarded LEED gold.

Wieland has accompanied the electrical planner from an early stage on and provided support in realizing the *smart* Installation concept. Therefore, the planner was able to develop the optimal solution for the required application. Easily comprehensible overviews enhanced the comprehension and acceptance of the investor.

The required flexibility with a large number of possibly rented areas on each floor were significantly supported by the *smart* Installation concepts.

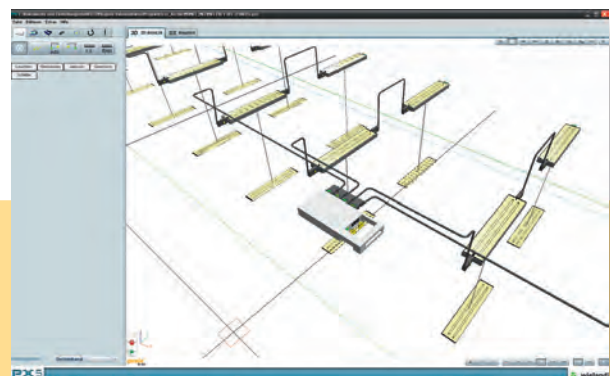
The pluggable automation components at distributed locations enable a quick realization of short term changes of use. For the optimal conceptual design the planner was supported by Wieland project managers.

Wieland components:

- gesis® EIB V** for distributed, directly pluggable control of the roller blind drives and reception for EnOcean wirelessradio switches
- gesis® RAN** for distributed, directly pluggable control of the roller blind drives
- gesis® RM** modular automation system for cost-efficient and flexible extension of the **gesis® RAN**-distribution unit, tailored to the locally required functions
- gesis® DALI** for cable saving, flexible lighting control
- gesis® RC** for manual control of lighting and roller blinds with EnOcean switches
- gesis® CON** for structured, pluggable cabling of lighting and roller blind drives



▲ For connecting the batteryless EnOcean radio system to the KNX building automation, decentralized, directly pluggable gateways were used.



▲ The *smart* Installation concept was simulated beforehand using **gesis® PLAN** and introduced to the client.





▲ The optimal types and numbers were agreed with the planner using easily comprehensible overviews.

Documented sustainable construction.

Further references

Süddeutscher Verlag, Munich



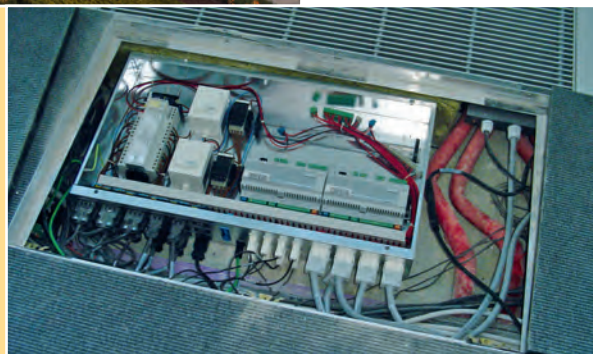
The first office building in Germany to be awarded LEED gold, is the administrative building of Süddeutscher Verlag in Munich. Since many properties have already been equipped with Wieland technology, the *smart* Installation concepts were also favored for the new buildings. In close cooperation between client, electrical engineer and the Wieland project management, an infrastructure based on flat cable systems was created for supplying the decentralized, pluggable distributor units and floor-boxes. The distributor units contain the automation components used for controlling the distributed air conditioning, lighting and sunlight protection.

Wieland components:

- gesis® RAN** for distributed, directly pluggable control of lighting, roller blind drive, air conditioning as well as for decentralized distribution and safety units for the 230/400 V infrastructure in the raised floor
- gesis® CON** for supplying the 230 V infrastructure up to the desk and for wiring the bus technologies for air conditioning, lighting and roller shutters (DALI and LON)
- gesis® NRG** for supplying the 230/400 V infrastructure in the raised floor



Photographer: Claus Graubner; architects: GKK+Architekten Prof. Swantje Kühn, Oliver Kühn.



◀ The building automation components for lighting, roller blinds and air conditioning system were installed decentralized as **gesis® RAN** distributor units in the floor.





Neue Börse, Eschborn

"The Cube", the new Deutsche Börse head office in Eschborn, is the first high-rise office building in Germany awarded LEED platinum. Based on positive experience from several other projects, the contractor from HKL favored the familiar *smart* Installation technology with pre-assembled **gesis**^{RAN} distribution units. Furthermore, the thermal drives were supplied by Wieland with pre-assembled, pluggable connection cables, which were mounted and assembled quickly and safely on site.

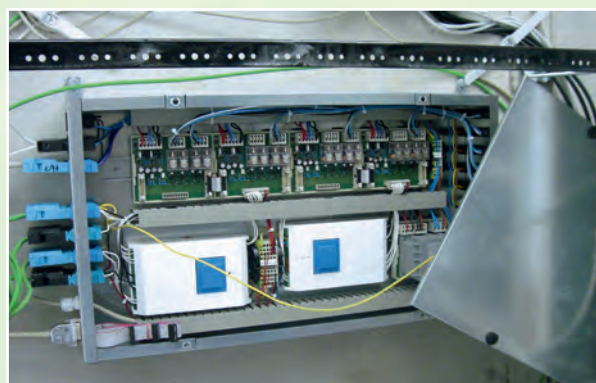
smart Installation concepts were also used for wiring the dimmed lighting and the floor-boxes. For example, a pluggable design was chosen as the supply for the floor-boxes. For safe differentiation two different sets of coding are used for standard electrical power supply and IT network. To minimize line loss, the three-phase cables were installed as close to the consumer as possible.



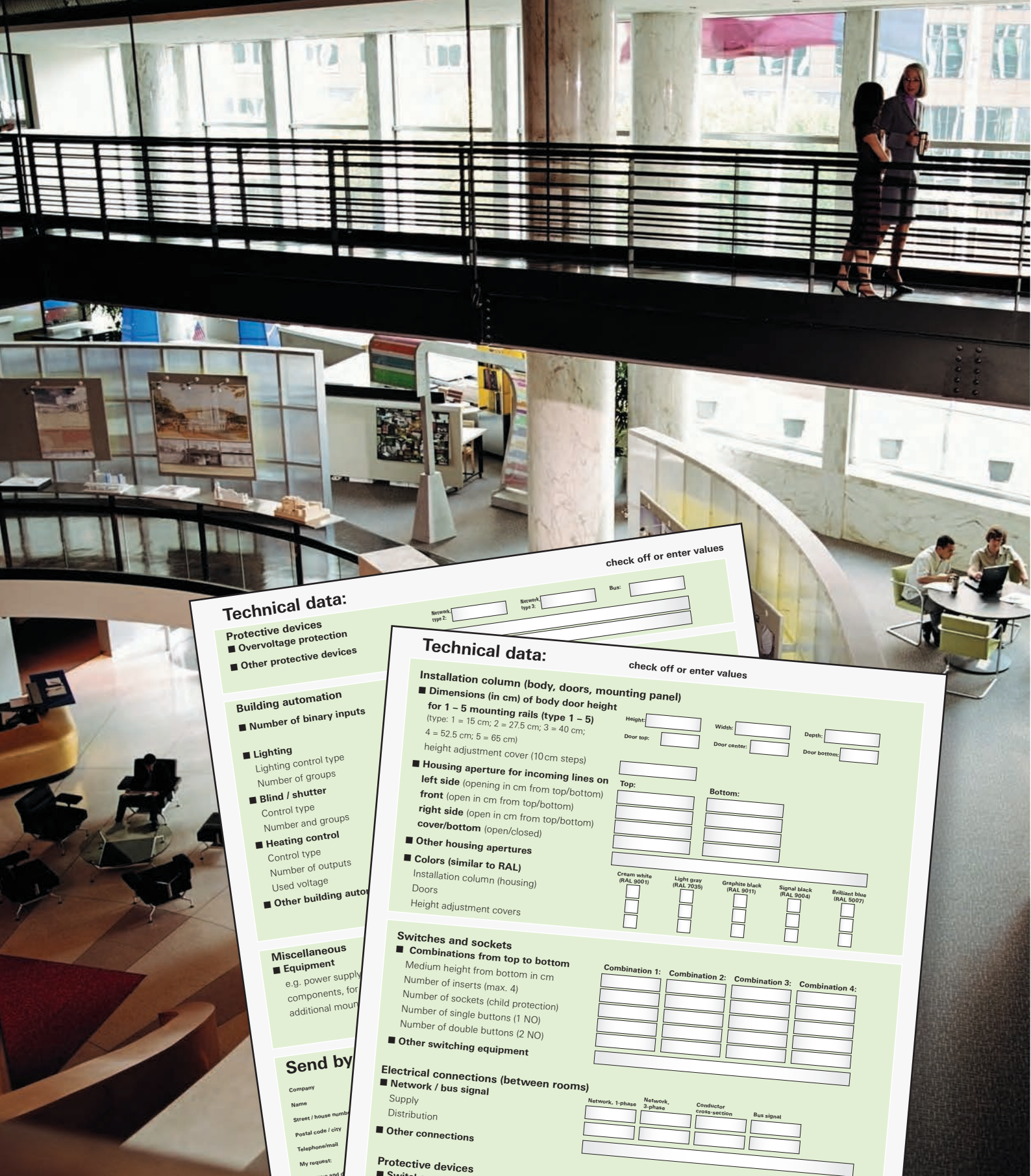
Wieland components:

- gesis**[®] RAN for distributed installation of the single-room controllers for controlling the heating/cooling ceilings
- gesis**[®] CON for safe and quick connection of thermo drives via pre-assembled cables as well as for the pluggable version of the lighting and floor-box cabling

▼ The single room controllers were installed decentralized in the floor using preassembled **gesis**^{RAN} distribution units.



▲ A pluggable version was chosen for the wiring of the dimmed lighting.



Technical data:

- Protective devices
 - Overvoltage protection
 - Other protective devices

- Building automation
 - Number of binary inputs

- Lighting
 - Lighting control type
 - Number of groups
- Blind / shutter
 - Control type
 - Number and groups
- Heating control
 - Control type
 - Number of outputs
 - Used voltage
- Other building automation

- Miscellaneous
 - Equipment
 - e.g. power supply components, for additional mounting

Send by

Company
Name
Street / house number
Postal code / city
Telephone/email
My request:
Signature and date

Get more information
or by telephone

check off or enter values

Network type 1: ☐ Network type 2: ☐ Bus: ☐

Technical data:

check off or enter values

Installation column (body, doors, mounting panel)

Dimensions (in cm) of body door height for 1 - 5 mounting rails (type 1 - 5)

(type: 1 = 15 cm; 2 = 27.5 cm; 3 = 40 cm; 4 = 52.5 cm; 5 = 65 cm)

height adjustment cover (10 cm steps)

Housing aperture for incoming lines on left side (opening in cm from top/bottom)

front (open in cm from top/bottom)

right side (open in cm from top/bottom)

cover/bottom (open/closed)

Other housing apertures

Colors (similar to RAL)

Installation column (housing)

Doors

Height adjustment covers

Height: Width: Depth:

Door top: Door center: Door bottom:

Top: Bottom:

Cream white (RAL 9001) Light gray (RAL 7035) Graphite black (RAL 9011) Signal black (RAL 9004) Brilliant blue (RAL 5007)

☐ ☐ ☐ ☐ ☐

Switches and sockets

Combinations from top to bottom

Medium height from bottom in cm

Number of inserts (max. 4)

Number of sockets (child protection)

Number of single buttons (1 NO)

Number of double buttons (2 NO)

Other switching equipment

Combination 1: Combination 2: Combination 3: Combination 4:

Electrical connections (between rooms)

Network / bus signal

Supply

Distribution

Other connections

Network, 1-phase Network, 3-phase Conductor cross-section Bus signal

Protective devices

Switches or contactors

Main switch

Auxiliary contactor (for emerg. shutdown)

- Auxiliary contacts

Residual current circuit breakers (40 A, 30 mA)

Line circuit breakers, (B type)

No. of poles Nom. current

No. of poles Nom. current

NC: NO:

2-pole 4-pole

10 A 16 A



Our experience, your advantage.
Optimizing the application.

Time is money – and mostly limited

Using our calculation lists and questionnaires you can quickly and safely generate a calculation for your applications.

Download the Wieland optimization tools from our website, or – even more simple – get the calculation aids directly onto your smartphone or tablet using the following QR code.



Calculation aid gesis RAN distribution box			
(dated 21 Oct. 2009)			
	KNX	Lon	Outputs
Bus system	230V	400V	Outputs
Power supply			Outputs
Lighting			1
Directly switched lighting circuits			1
Directly/indirectly switched lighting circuits			
Dimmed lighting circuits (1 – 10V)			
Universal dimming circuits (max. 250V A)			
DALI dimming circuits (max. 8 nodes)			
Sun protection			
Sunblinds (AC 230 V)			
Sunblinds (DC 24V)			
Window drives / façade shutters			
Window drives (AC 24V)			
Façade shutters (DC 24V)			
Heating / cooling			
PWM (AC/DC 12 – 230 V, 0.5 A)			
PWM (AC 12 – 230V, 0.5 A)			
PWM (DC 24V, 0.5 A)			
Binary inputs			
Window contacts			
Presence detectors			
Dew point monitor			
Other			
Operation (through conventional pushbuttons)			
Light pushbutton			
Sunblind pushbutton			
Scenario pushbutton			
Presence pushbutton			
EnOcean radio inputs			
Sensor channels			
Pushbutton channels			
gesis RAN Type			
Gross price for gesis RAN			

	Customer:	Project:	Request dated:	Part No.	Date

gesis RM components & accessories

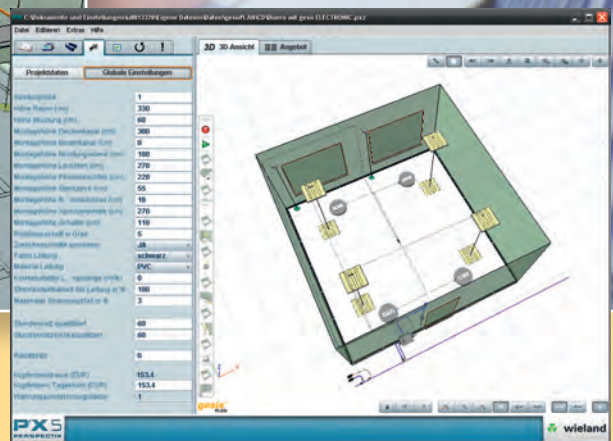
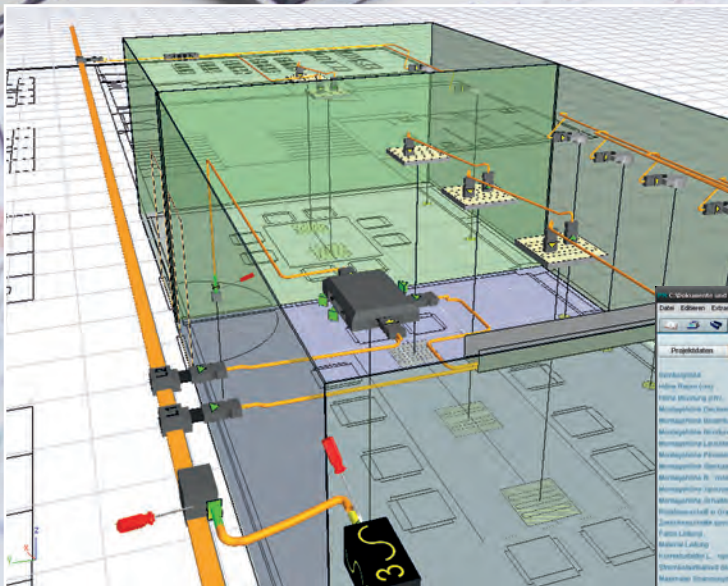
Type	Description / short text	Part No.	Pcs.
RMS-BA2S	gesis LOW RM base unit	83.020.0300.3	
RMS-BA5	gesis EIB RM base unit	83.020.0400.0	
PS	gesis RM power supply unit	83.020.0401.0	
PS 12/5	gesis RM power supply unit (2-fold)	83.020.0421.0	
NB(12)	gesis RM binary input 8-fold	83.020.0402.0	
M4	gesis RM switching output 4-fold	83.020.0403.0	
DWV SI	gesis RM sunblind output 2-fold (230V AC)	83.020.0404.0	
SF SD	gesis RM switching/dimming output 2-fold (1–10 V)		
SW DC	gesis RM semiconductor switch 4-fold		
VRC	gesis nm sunblind output 2-fold (24V DC)		
EIR RC	gesis nm EcoGreen radio input IZ x 8-fold		
UC	gesis nm universal dimmer 2-fold (2 x 2%)		
AU	gesis nm DALI actuator 2-fold		
AC	gesis nm semiconductor switch 4-fold (1 A)		
CC	gesis nm semiconductor switch 4-fold (1 A)		
	gesis antenna 868 MHz with SMA conn.		

RM components

Description / short text
Snapshot, GST181, 3 pole, 250V, 16A, spr
Snapshot, GST181, 3 pole, 250V, 16A, sr
Snapshot, GST181, 3 pole, 250V, 16A, sr
Snapshot, GST181, 3 pole, 250V, 16A, sr
Snapshot, GST181, 3 pole, 250V, 16A, sr
Snapshot, GST181, 4 pole, 250/400V, 16
Snapshot, GST181, 5 pole, 250/400V, 16
Snapshot, GST181, 5 pole, 250/400V, 16
Snapshot, GST181, 5 pole, 250/400V, 16
Snapshot, GST181, 5 pole, 250/400V, 16
Snapshot, GST181, 5 pole, 250/400V, 16
Snapshot, GST181, 5 pole, 250/400V, 16
BST141, 2 pole, 50V, 3A, spring
BST141, 2 pole, 50V, 3A, spring
BST141, 2 pole, 50V, 3A, spring
BST141, 3 pole, 50V, 3A, spring
BST141, 3 pole, 50V, 3A, spring
BST141, 3 pole, 50V, 3A, spring
BST141, 3 pole, 50V, 3A, spring
ST17, 2 pole, 50V, 16A, spring
ST17, 2 pole, 50V, 16A, spring
ST17, 2 pole, 50V, 16A, spring

The configurator shows various modules categorized by function:
Functional descriptions:
 - Bus system: Type KNX, Supply voltage direct/wired.
 - Lighting system I: Type dimmed (DALI).
 - Lighting system II: Type AC 230 V.
 - Shutter system I: Type .
 - Shutter system II: Type .
 - Window drives: Type .
 - Heating/Cooling: Type .
 - Binary sensor inputs: Type .
 - Binary push-button inputs: Type Lighting push-button.
 - Binary RC inputs: Type .
 - Distribution box type: gesis.

[illegible]



gesis® PLAN 3D for the presentation. Display of the planning.

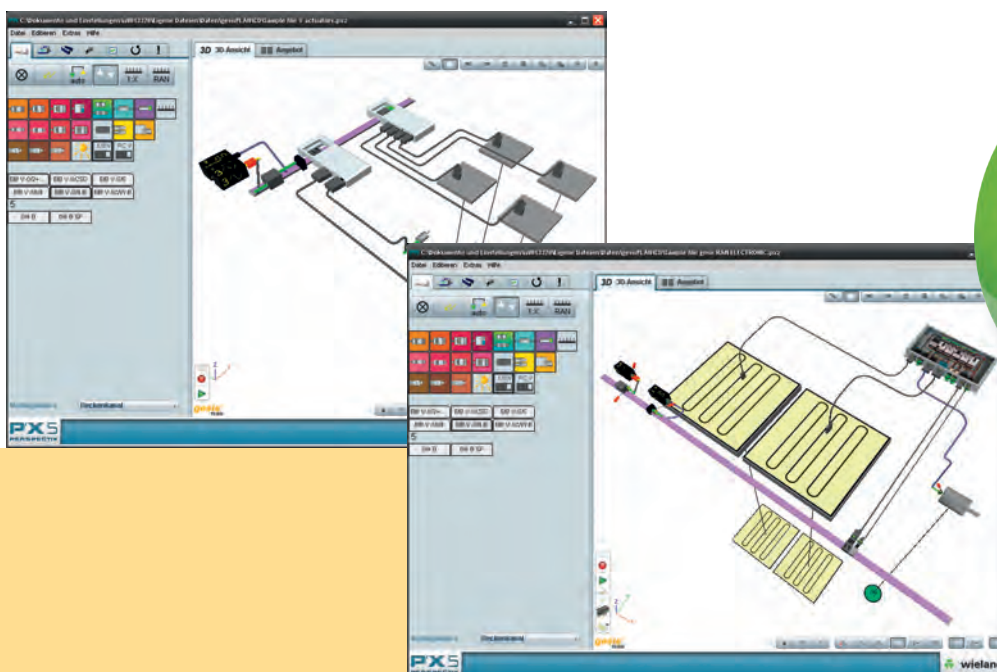
The **gesis** PLAN demonstration and planning software is a tool for conveniently designing and calculating pluggable electrical installations with **gesis**. The software supports specialist planners as well as system integrators, architects and clients in the electrical design of buildings.

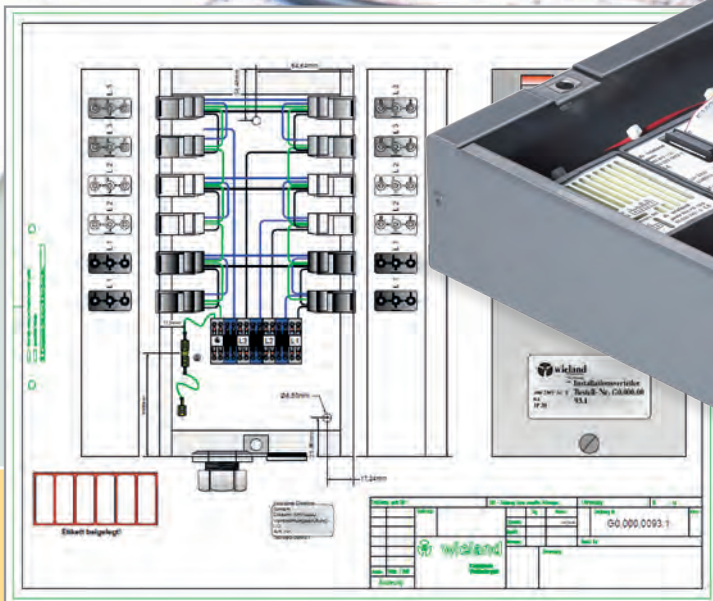
The software imports the existing DWG/DXF drawings of the rooms and building parts to be installed. The required consumers, such as lamps, sockets, roller blinds etc., are placed into the 3D view on the PC, and **gesis** ELECTRONIC components, **gesis** RAN distributor units and **gesis** NRG flat cables are wired with only a few mouse-clicks. The recommended connector encoding is automatically taken into account, and the compliance with standards is checked. The installation is also calculated regarding permitted currents, voltage drops or selectivity. Possible problems are immediately indicated by the software. As a result, the planner receives an item list with exactly calculated cable lengths and price details.

The **gesis** PLAN software serves as efficient planning aid for functional buildings with flexible use of space and facility management and its usage is not only reasonable for new buildings. For building renovation it supports the reliable preliminary planning through exact calculations. Without expert knowledge the user can start right away; software wizards guide him accurately through the various screens.

The uniquely convenient solution does not only take into account the electrotechnical installation requirements, but is also capable of simulating the spatial conditions due to beams, additional walls, columns, and automatically takes them into account for cabling.

This is based on the experience of many years by the Wieland project support. It is possible to plan not only individual rooms, but also stories and entire buildings.





Documentation and plans.

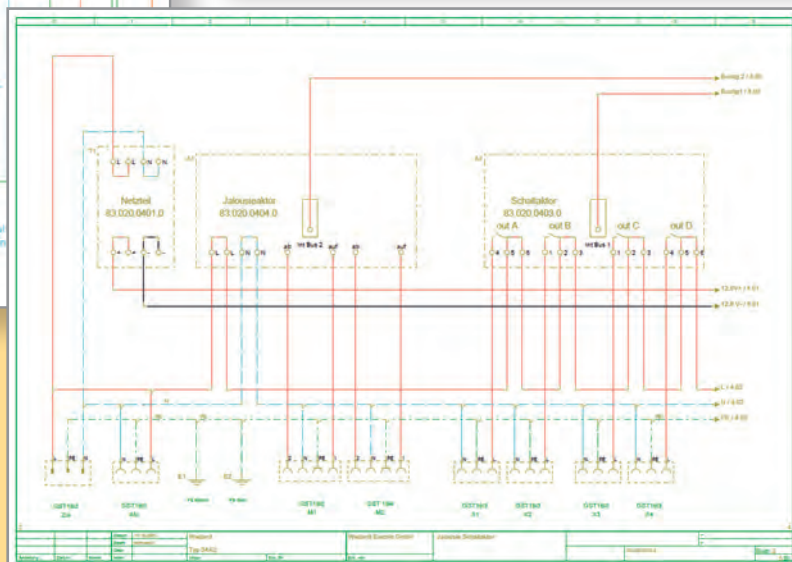
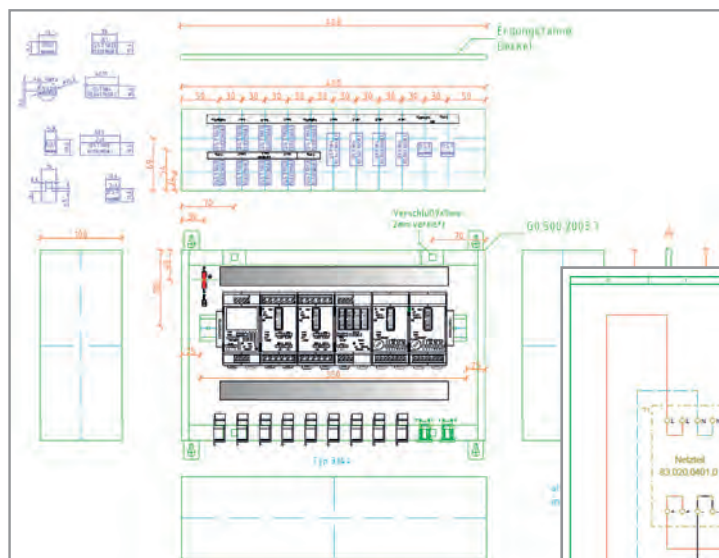
Implementing the requirements.



The flexible use of buildings does not only require an appropriate design during construction. The documentation of the installed systems must meet these requirements.

Documenting the installed components plays a vital role. Wieland generates assembly and wiring plans for each individual distributor unit. All designations for inputs and outputs as well as details on the installation location are documented here.

We strictly follow your specified needs and requirements. You will receive a complete documentation of your plant, which you can use to plan inspections, maintenance and extensions in advance without taking an inventory on site.

This creates planning safety across the entire lifecycle of the building.



Bereich: _____		Datum: _____		Seite: 3/4	
		Best.-Nr.	LV Pos.	Angh. Pos.	Stck.
		2-fach Jalousieausgang gesis FLEX-02W	83.020.0624.0	1.3.7.62	000060
		Anschlussstecker (Jalousie) 4-polig, schwarz	92.944.1053.1	1.3.7.84	000280
		Anschlussleitung (Jalousie) Stecker - offenes Ende, 4-polig, schwarz, 9,9 m	92.207.9964.1	1.3.7.108	000340
		Anschlussleitung (Jalousie) Stecker - offenes Ende, 4-polig, schwarz, 8 m	92.207.8064.1	1.3.7.109	000350
		Anschlussleitung (Jalousie) Stecker - offenes Ende, 4-polig, schwarz, 7 m	92.207.7064.1	1.3.7.110	000360
		4-fach Schaltausgang gesis FLEX-0/4	83.020.0623.0	1.3.7.60	000040
		Anschlussleitung (geschaltete Beleuchtung) Stecker - offenes Ende, 3-polig, schwarz, 9,9 m	92.232.9964.1	1.3.7.90	000420
		Anschlussleitung (geschaltete Beleuchtung) Stecker - offenes Ende, 3-polig, schwarz, 8 m	92.232.8064.1	1.3.7.91	000430
		Anschlussleitung (geschaltete Beleuchtung) Stecker - offenes Ende, 3-polig, schwarz, 6 m	92.232.6064.1	1.3.7.92	000440
		Anschlussleitung (geschaltete Beleuchtung) Stecker - offenes Ende, 3-polig, schwarz, 5 m	92.232.5064.1	1.3.7.93	000450
		Anschlussleitung (geschaltete Beleuchtung) Stecker - offenes Ende, 3-polig, schwarz, 4 m	92.232.4064.1	1.3.7.94	000460
		Anschlussleitung (geschaltete Beleuchtung) Stecker - offenes Ende, 3-polig, schwarz, 3 m	92.232.3064.1	1.3.7.95	000470
		Anschlussleitung (geschaltete Beleuchtung) Stecker - offenes Ende, 3-polig, schwarz, 2 m	92.232.2064.1	1.3.7.96	000480
		Verlängerungsleitung (geschaltete Beleuchtung) Buchse/Stecker, 3-polig, schwarz, 9,9 m	92.232.9960.1	1.3.7.97	000490
		Verlängerungsleitung (geschaltete Beleuchtung) Buchse/Stecker, 3-polig, schwarz, 8 m	92.232.8060.1	1.3.7.98	000500
		Verlängerungsleitung (geschaltete Beleuchtung) Buchse/Stecker, 3-polig, schwarz, 6 m	92.232.6060.1	1.3.7.99	000510
		Verlängerungsleitung (geschaltete Beleuchtung) Buchse/Stecker, 3-polig, schwarz, 5 m	92.232.5060.1	1.3.7.100	000520
		Verlängerungsleitung (geschaltete Beleuchtung) Buchse/Stecker, 3-polig, schwarz, 4 m	92.232.4060.1	1.3.7.101	000530
		Verlängerungsleitung (geschaltete Beleuchtung) Buchse/Stecker, 3-polig, schwarz, 3 m	92.232.3060.1	1.3.7.102	000540
		Verlängerungsleitung (geschaltete Beleuchtung) Buchse/Stecker, 3-polig, schwarz, 2 m	92.232.2060.1	1.3.7.103	000550
		T-Verteiler (geschaltete Beleuchtung) 1 Eingang, 2 Ausgänge, 3-polig, schwarz	92.030.1053.1	1.3.7.80	000240
		Verteiler (geschaltete Beleuchtung) 1 Eingang, 3 Ausgänge, 3-polig, schwarz	92.030.4053.1	1.3.7.81	000250
		Verteiler (geschaltete Beleuchtung) 1 Eingang, 5 Ausgänge, 3-polig, schwarz	92.030.5353.1	1.3.7.82	000260

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Modular – Compact – Pluggable"



0601.1 "gesis TOP Luminares
connector concepts"



0640.1 "gesis MINI
the pluggable electrical installation
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0500.1 "selos / fasis Terminal Block
Catalog 2013"



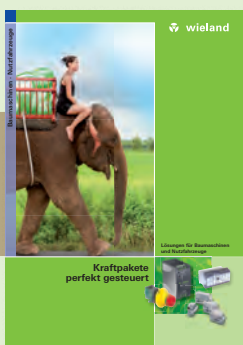
0530.1 "revos Industrial multipole
connection
Catalog 2013"



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