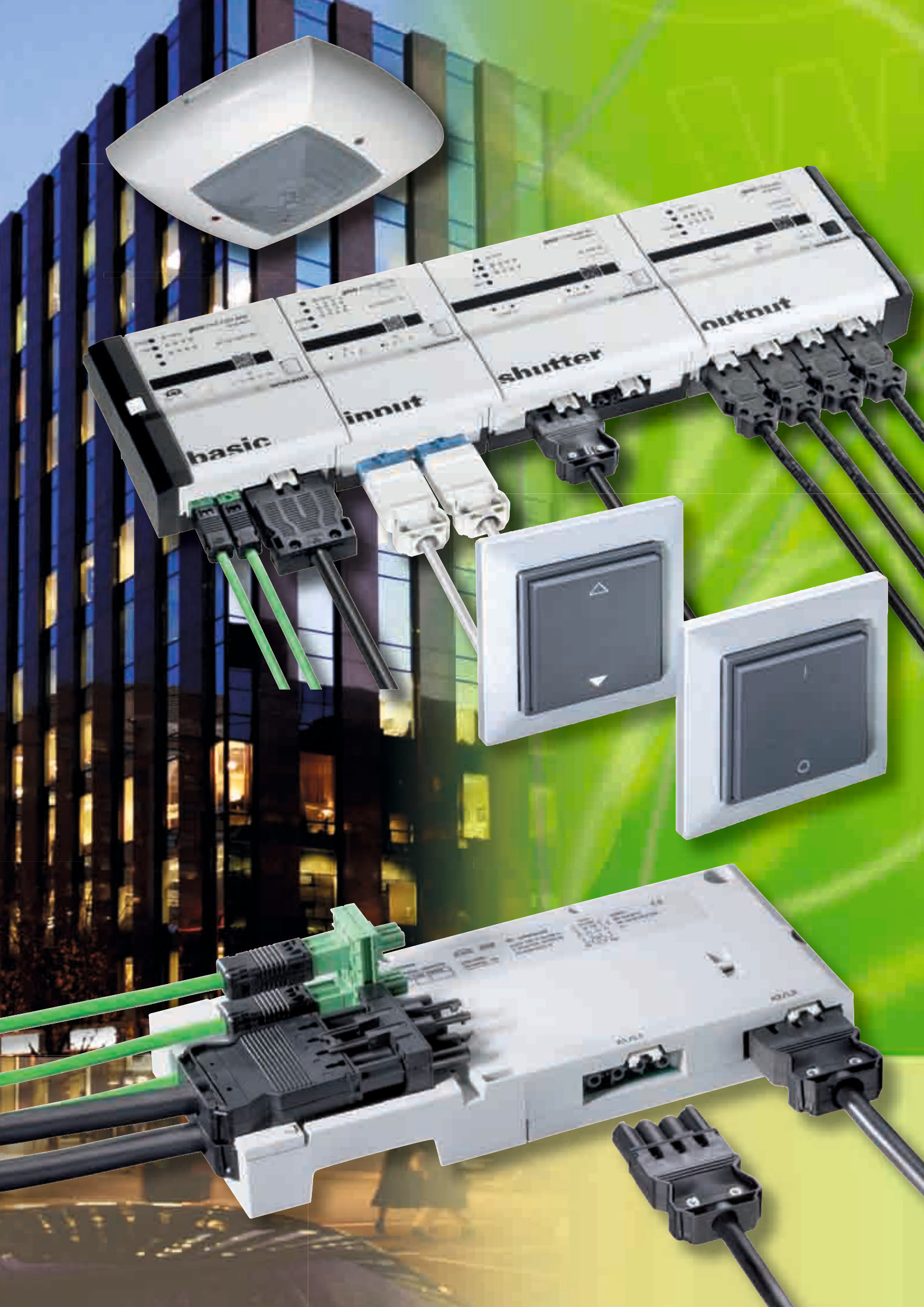




gesis® ELECTRONIC
Decentralized building
installation via plug & play
Catalog 2014

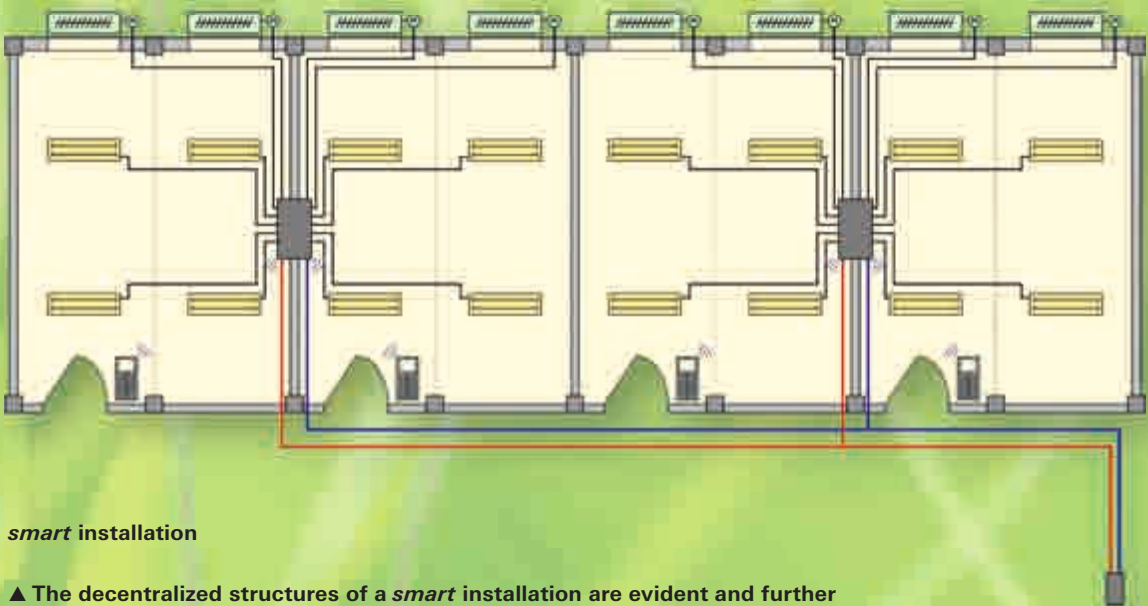
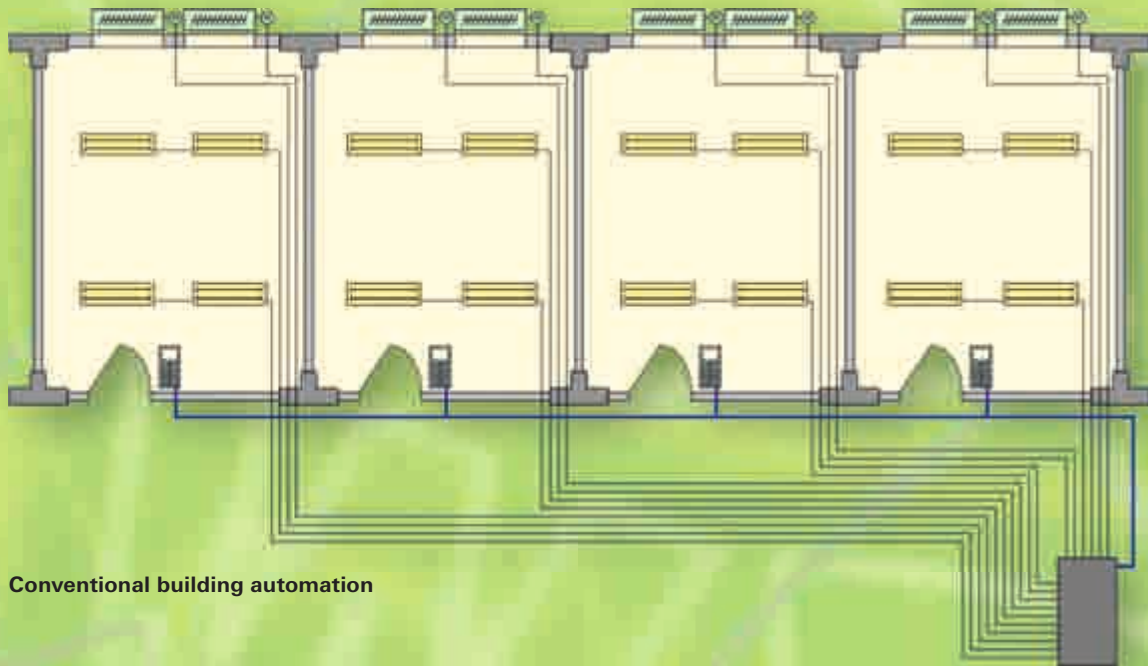




Room automation with Wieland

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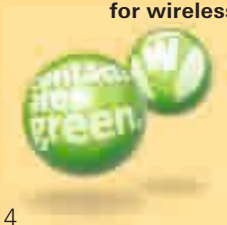
gesis® RC
radio technology without batteries
for wireless sensors



gesis® EIBV
flat, pluggable KNX actuators
for limited space



gesis® EIBM2
the modular, pluggable KNX system
for maximum flexibility on-site



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 a change of use throughout the lifecycle of a building.

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

Advantages of distribution:

- smaller sub-distribution/utility rooms
- considerably reduced wiring expenses
- reduced demand for copper
- safety (in part fully functional during a bus failure)
- adaptable to change of use
- structured cabling

Advantages of pluggability:

- 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 lifecycle of a building.



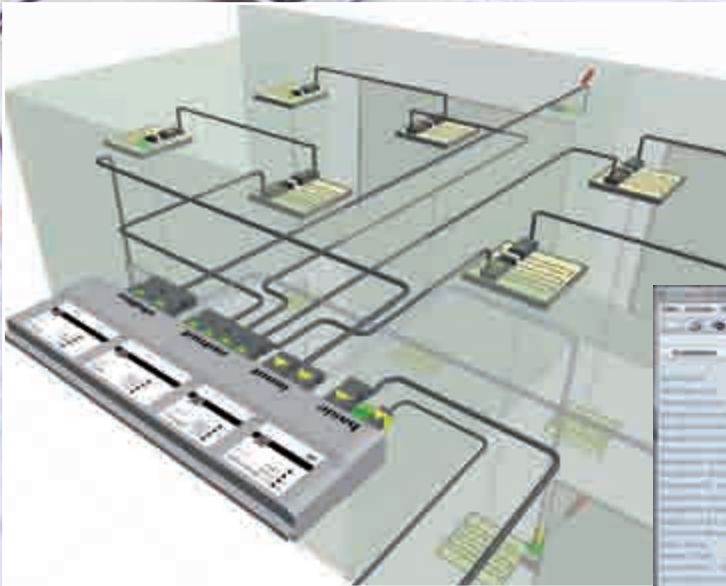
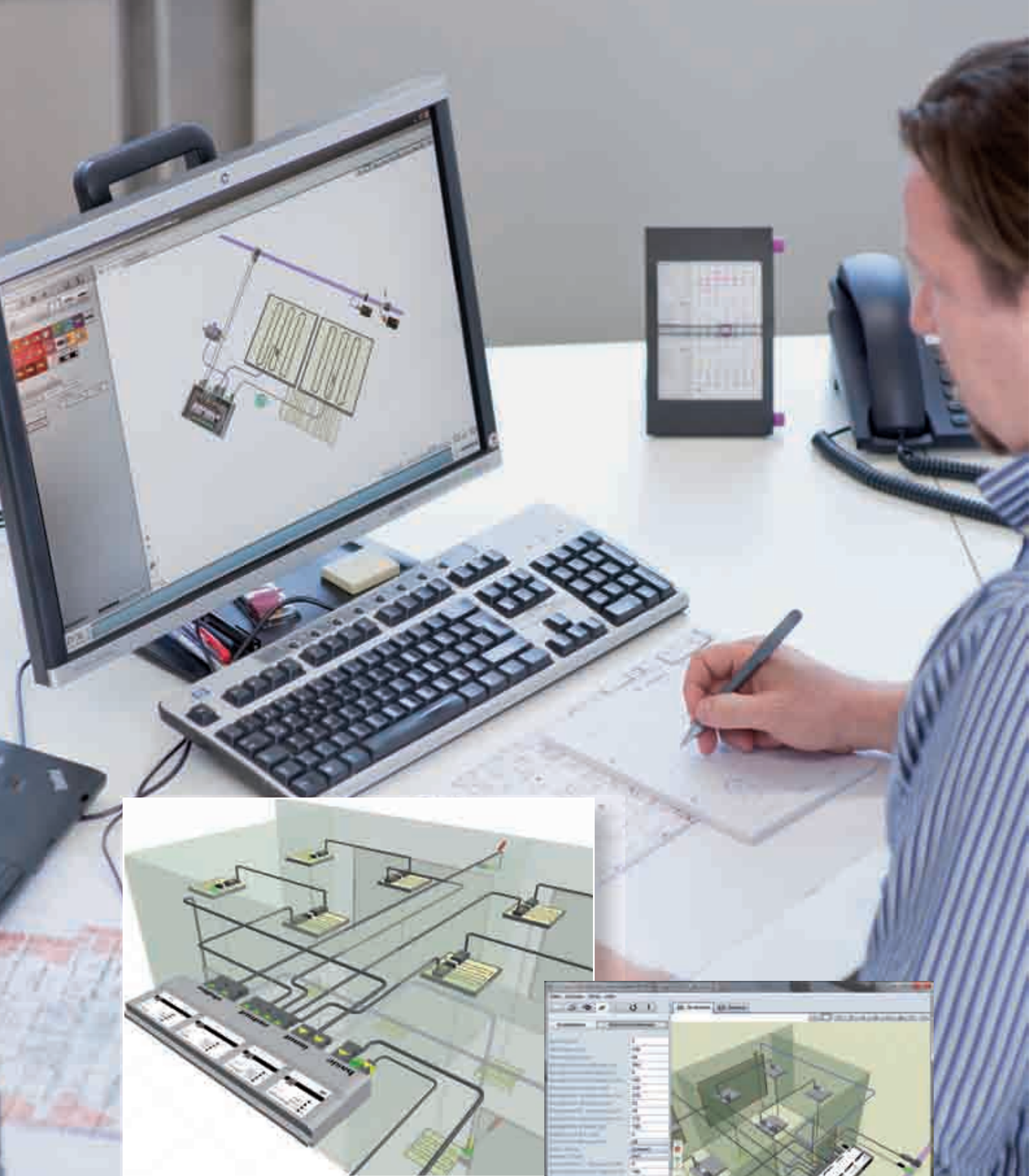
gesis[®] RM
the modular, project-specific system for KNX, LON, and radio



gesis[®] FLEX
the flat, modular KNX system for room automation



Installation column
Room installation and automation in one system



gesis[®] PLAN – 3D for presentation Displaying the design.

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 and sunblinds, etc., are placed in 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 in terms of permitted currents, voltage drops or selectivity. Possible problems are immediately indicated by the software. As a result, the planner receives an item list with precisely calculated cable lengths and price details.

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

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

This is the result of many years of experience amassed by Wieland Project Support. It is possible to plan not only individual rooms, but also stories and entire buildings.





gesis FLEX, a sophisticated system

Wieland Electric offers innovative system solutions designed to be easy to install. The new **gesis** FLEX series raises the bar further in decentralized room automation. The system is installed in the location where the functions are used, i.e. in the room. Given that there is not usually much space here, the extremely flat modules can be integrated into very low assembly areas via openings, e.g. bottom tanks. The unidirectional connection and arrangement of the modules in longitudinal direction make installation in cable ducts ideal as well. The modular design enables maximum variance for the room solution with a huge variety of functions assembled from just a few "blocks".

Obviously, all the electrical connections have been executed with the Wieland installation connector system **gesis** CON. A quick mounting frame rounds the system off perfectly, guaranteeing a smooth, safe, and unbeatably fast installation.



gesis[®] FLEX

The future of room automation. Modular, compact, pluggable.

■ The future

Future-proof systems rely on standards. KNX has proven itself over many years, and it is established and standardized worldwide. The pluggable electrical installation with **gesis** has been used successfully all over the world for the last 25 years and more. The combination of both proven systems prepares any building adequately for the future.

■ Modular

Architects, planners, and contractors must all take account of the conditions relating to a building. The wishes of the owners and the constraints, e.g. due to building size, regulations, location, and ultimately budget, impact on room automation. So it is essential to have automation devices that can also be adapted to these requirements. Fixed-function devices for a room can only satisfy this need to a limited extent; they are either oversized or overburdened. Modular devices where the function is easily modified by adding inputs/outputs can be adapted to requirements at any time. Even after initial installation.

■ Compact

The construction space for electrical installations is becoming increasingly confined. Utility rooms should be as small as possible, cable trays are accepted as a necessary evil, suspended ceilings are continuing to disappear, and these days installation in corridor ceilings is generally not allowed. Wieland Electric can help you out of this predicament. The **gesis** installation is decentralized. The room automation devices are installed exactly where they are needed, in the rooms, which keeps the distributors small.

gesis[®]FLEX has been designed so it is easy to install in cable support systems without requiring additional construction space.

■ Pluggable

Buildings of whatever type are being erected more and more quickly. This poses a challenge for the electrical installation as well. Prefabrication to the highest possible degree enables rapid, error-free installation and prevents delays in construction. This is made possible with universally pluggable components. A flat cable can be used here with pluggable outgoing adapters for power and bus supply to the areas. The room automation devices are plugged into this, and, in turn, the consumers, such as lamps, are plugged into them. The automation devices have been pre-programmed and tested in advance by the system integrator. The electrical installation for an office is completed in no time and fits perfectly into the construction process.

Advantages of the **gesis**[®] FLEX series

- **Compactness – fits through even the smallest inspection openings into virtually any assembly area**
- **Modularity – enables adjustment to a whole range of requirements**
- **Pluggability – allows for quick and error-free installation thanks to the high degree of prefabrication**
- **Sustainability – KNX combined with modularity will make your installation future-proof**

Data for the gesis FLEX series

Mains connection: 230 V AC or 400 V AC, depending on the base or feed module
 Bus connection: KNX TP
 Inputs/outputs: depends on the extension module
 Connection type: all electrical connections are pluggable
 Number of extensions: up to 6 extension modules

System extension: any number of central feed and DIN rail modules
 Maximum length: 1 meter maximum, use system-compatible cables
 Module dimensions: 3 m as total across all devices and system extensions

Height (vertically from the top edge of the top-hat rail)

all except DIN rail	44 mm
DIN rail housing	80 mm (without protective cover)
DIN rail housing	94 mm (with protective cover)

Width (crossways to the top-hat rail)

all except DIN rail	149 mm
DIN rail housing	149 mm (without screw fittings)
	173 mm (including screw fittings)

Length (along the top-hat rail)

narrow housing	95 mm mounted
wide housing	130 mm mounted
DIN rail housing	130 mm mounted
side covers	approx. 30 mm in total

Installation

without top-hat rail	on flat surfaces
with top-hat rail	TH35
with mounting frame	see product part

		83.020.0600.0	83.020.0600.1	83.020.0601.0	83.020.0601.1	83.020.0610.0	83.020.0610.1	83.020.0611.0	83.020.0611.1	83.020.0622.0	83.020.0622.1	83.020.0623.0	83.020.0623.1	83.020.0624.0	83.020.0624.1	83.020.0660.0	83.020.0661.0	83.020.0662.0	83.020.0663.0		
Functions	Management of x extension modules	6	6	6	6																
	3-phase mains feed	1	1			1	1														
	1-phase mains feed			1	1			1	1												
	Binary input 12-V SELV									8	8										
	Switching output 230V 16A											4	4								
	Sunblind output 230V 8A													2	2						
	Installation DIN rail 4 module widths*															x	x	x	x		
	Fitting cable diameter 5-9 mm																	2	2		
	Fitting cable diameter 7-13 mm																	1	1		
Hinged lid																		x	x		
Connector / connection^{*)}	Main supply	Three-phase, 5-pole (GST18i5 black)	1	1**)			1	1**)													
		Single-phase, 3-pole (GST18i5 black)			1	1**)			1	1**)											
	KNX	2-pole infeed BST 14i2 green	1	1**)	1	1**)															
		2-pole routing BST 14i2 green	1	1	1	1															
		In- / Outputs	5-pole (GST15i5 light blue)								2	2**)									
			3-pole (GST18i3 black)										4	4**)							
			4-pole (GST18i4 black)												2	2**)					
Screw fittings																4	4				
Plug set included			x		x		x		x		x		x		x						

^{*)} See the product range of the pluggable electrical installation system **gesis** CON
^{**)} Plug included



Application example: hotel

Requirements

Hotels often stay open for business while renovations are taking place. To ensure that the process runs smoothly, guestrooms have to be renovated room by room. Ideally, automation devices are integrated decentrally. In the example shown, there are three lighting circuits (two in the room and one in the bathroom) as well as a fan in the bathroom and an exterior sunblind that have to be powered. A hotel card switch registers the presence of a guest and conveys this information to the control system. The basic lighting is turned on from here. Each hotel room requires its own separately fused feed.

Realization

The modular, flat device system **gesis** FLEX is used. The push-buttons and hotel card switch are connected to **gesis** FLEX via a binary input. A sunblind output and a switching output control the sunblinds and lighting. Each hotel room is supplied via a separate supply line from the central distribution unit. One feed involves the base module

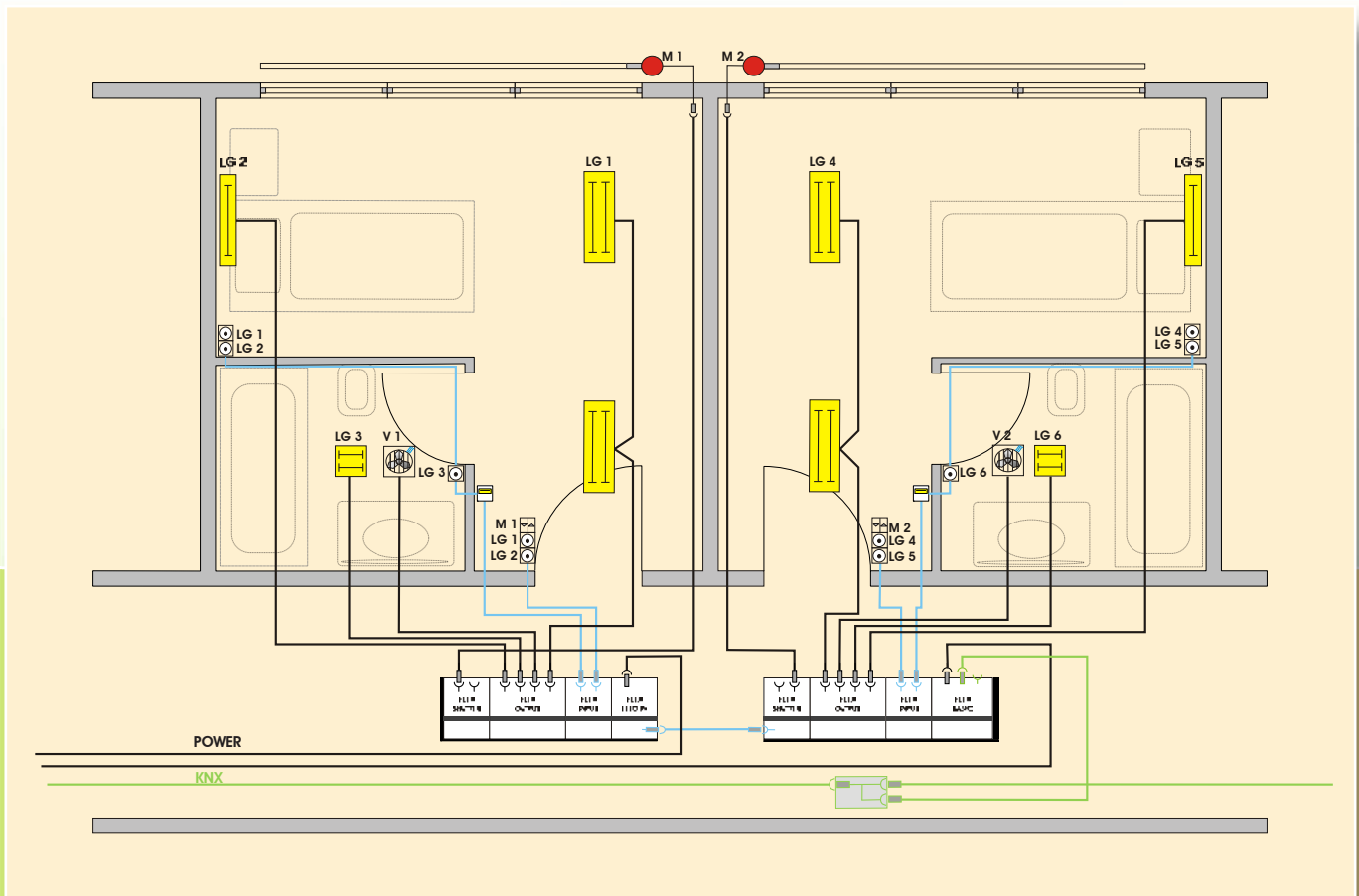
directly; the other runs via the intermediate feed. The two subsystems are connected with a **gesis** FLEX system extension.

Automation devices used:

1 x base module, 1-phase	gesis KNX FLEX BAS-SP
2 x binary input 8-fold 12V (SELV)	gesis FLEX 8/I-(12)
2 x binary output 4-fold 230V 16A	gesis FLEX 0/I4
2 x sunblind output 2-fold 230V 8A	gesis FLEX 0/I2W
1 x intermediate feed, 1-phase	gesis FLEX MS SP
1 x gesis FLEX system extension for the internal bus	

Connection components used:

- Connector with screw connection for feed
- Pre-assembled cable with plug and open end for connecting the lights and fan
- Pre-assembled cable with plug and socket for connecting the sunblinds
- Pre-assembled cable with plug and open end for connecting the push-buttons



With or without plug set



Without plug set:

The **gesis** FLEX series offers pluggable electrical connections throughout. The corresponding plugs come from different **gesis** product lines depending on their use. If a pluggable electrical installation is planned for the entire building project and therefore industrially prefabricated **gesis** cables are also used, the model without accompanying connectors is recommended.

With plug set:

If the devices are operated in single applications or a universally pluggable electrical installation is not planned, then choose the model with a plug set. You will receive the devices including all the connectors required for connection. These have a screw or spring connection and are suitable for all common cable types.

Feeds 1-phase or 3-phase



3-phase:

The base modules and intermediate feeds are designed for 3-phase 230/400V connection. This is necessary for connecting high loads to the extension modules. If various feeds should be used, this can be achieved via an intermediate feed. The outputs of the extension modules are hard-wired to the fed outer conductors. E.g. switching output 4-fold output A1-L1; A2-L2; A3-L3; A4-L3.



1-phase:

Feeds with 1-phase mains connection are used if the connected power is low. The through-wiring within a **gesis** FLEX arrangement is always designed as 3-phase. Single-phase feed modules bridge the three live conductors. The connected extension modules are thereby connected to an outer conductor. E.g. switching output 4-fold output 1 - 4 on the connected outer conductor.

KNX base modules 3-phase feed

Type	Std. Pack	Part No.
gesis KNX FLEX-BAS without plug set	10	83.020.0600.0
gesis KNX FLEX-BAS Z with plug set	1	83.020.0600.1 1 mains feed 5-pole GST18i5, black 1 bus feed 2-pole, BST14i2, green

The 3-phase supplied KNX base module with in the flat surface-mounted housing, which can be fitted on DIN rails for decentralized installation, supports 6 extension modules. They have all the usual inputs and outputs, and they provide extensive room automation with only one physical address. The manual operation level allows function tests without prior system integration. The electrical connections, which are pluggable in accordance with IEC 61535, separate automation and installation. For 83.020.0600.1: all necessary plugs are enclosed.

Feed	
Mains	230/400V; 3 x 16A
Bus	KNX TP1
Outputs	
Mains and bus connection	to next module
Dimensions	
	width: 117 mm with left cover
	height: 149 mm incl. plug lock
	depth: 44 mm without mounting rail
Installation	surface-mounted on TH35 mounting rail, system-compatible mounting frame or flat mounting surface
Accessories	extension modules from the gesis FLEX series

KNX base modules 1-phase feed

Type	Std. Pack	Part No.
gesis KNX FLEX-BAS SP without plug set	10	83.020.0601.0
gesis KNX FLEX-BAS SP Z with plug set	1	83.020.0601.1 1 mains feed 3-pole GST18i3, black 1 bus feed 2-pole, BST14i2, green

The 1-phase supplied KNX base module with in the flat surface-mounted housing, which can be fitted on DIN rails for decentralized installation, supports 6 extension modules. They have all the usual inputs and outputs, and they provide extensive room automation with only one physical address. The manual operation level allows function tests without prior system integration. The electrical connections, which are pluggable in accordance with IEC 61535, separate automation and installation. For 83.020.0601.1: all necessary plugs are enclosed.

Feed	
Mains	230V; 16A
Bus	KNX TP1
Outputs	
Mains and bus connection	to next module
Dimensions	
	width: 117 mm with left cover
	height: 149 mm incl. plug lock
	depth: 44 mm without mounting rail
Installation	surface-mounted on TH35 mounting rail, system-compatible mounting frame or flat mounting surface
Accessories	extension modules from the gesis FLEX series

Power supply module 3-phase

Type	Std. Pack	Part No.
gesis FLEX-MS without plug set	10	83.020.0610.0
gesis FLEX-MS Z with plug set	1	83.020.0610.1 1 mains feed 5-pole GST18i5, black

The 3-phase power supply module in the flat surface-mounted housing, which can be fitted on DIN rails for decentralized installation, allows a mains supply separate from the base module within a modular system construction. This means that the output loads can be spread over different fuse circuits. It can be integrated into the system as often as required. The electrical connections, which are pluggable in accordance with IEC 61535, separate automation and installation. For 83.020.0610.1: all necessary plugs are enclosed.

Feed	
Mains	230/400V; 3 x 16A
Bus	from preceding module
Outputs	
Mains and bus connection	to next module
Dimensions	
	width: 95 mm (mounted)
	height: 149 mm incl. plug lock
	depth: 44 mm without top-hat rail
Installation	
	surface-mounted on TH35 mounting rail, system-compatible mounting frame or flat mounting surface
Accessories	
	extension modules from the gesis FLEX series

Power supply module 1-phase

Type	Std. Pack	Part No.
gesis FLEX-MS SP without plug set	10	83.020.0611.0
gesis FLEX-MS SP Z with plug set	1	83.020.0611.1 1 mains feed 3-pole GST18i3, black

The 1-phase power supply module in the flat surface-mounted housing, which can be fitted on DIN rails for decentralized installation, allows a mains supply separate from the base module within a modular system construction. This means that the output loads can be spread over different fuse circuits. It can be integrated into the system as often as required. The electrical connections, which are pluggable in accordance with IEC 61535, separate automation and installation. For 83.020.0611.1: all necessary plugs are enclosed.

Feed	
Mains	230V; 16A
Bus	from preceding module
Outputs	
Mains and bus connection	to next module
Dimensions	
	width: 95 mm (mounted)
	height: 149 mm incl. plug lock
	depth: 44 mm without top-hat rail
Installation	
	surface-mounted on TH35 mounting rail, system-compatible mounting frame or flat mounting surface
Accessories	
	extension modules from the gesis FLEX series

Binary inputs 8-fold

Type	Std. Pack	Part No.
gesis FLEX-8/0 (12) without plug set	10	83.020.0622.0
gesis FLEX-8/0 (12) Z with plug set	1	83.020.0622.1 2 plugs, each for 4 inputs 5-pole GST15i5, light blue

The 8-fold binary input 12 VDC, for connecting potential-free contacts, in a flat surface-mounted housing (which can be fitted on a DIN rail for decentralized installation) is managed by the base module. It receives mains and bus supply from the upstream module. The parameter set enables different automation functions. The manual operation level allows function tests without prior system integration. The electrical connections, which are pluggable in accordance with IEC 61535, separate automation and installation. For 83.020.0622.1: all necessary plugs are enclosed.

Feed	
Mains and bus connection	from preceding module
Outputs	
Mains and bus connection	to next module
Inputs	8 (2x4), non-isolated 12V SELV
Dimensions	width: 95 mm mounted (105 mm with left cover) height: 149 mm incl. plug lock depth: 44 mm without top-hat rail
Installation	surface-mounted on TH35 mounting rail, system-compatible mounting frame or flat mounting surface
Accessories	extension modules from the gesis FLEX series

Switching outputs 4-fold

Type	Std. Pack	Part No.
gesis FLEX-8/0 (12) without plug set	10	83.020.0623.0
gesis FLEX-8/0 (12) Z with plug set	1	83.020.0623.1 4 outputs 3-pole GST18i3, black

The 4-fold relay output 230 V/16 A in the flat surface-mounted housing, which can be fitted on DIN rails for decentralized installation, is managed by the base module. It receives its mains supply and bus supply from the upstream module. The extensive parameter set enables different automation functions. The manual operation level allows function tests without prior system integration. The electrical connections, which are pluggable in accordance with IEC 61535, separate automation and installation. For 83.020.0623.1: all necessary plugs are enclosed.

Feed	
Mains and bus connection	from preceding module
Outputs	
Mains and bus connection	to next module
Relay output	4, non-isolated 230V/16A
Dimensions	width: 130 mm mounted (140 mm with left cover) height: 149 mm incl. plug lock depth: 44 mm without top-hat rail
Installation	surface-mounted on TH35 mounting rail, system-compatible mounting frame or flat mounting surface
Accessories	extension modules from the gesis FLEX series

Sunblind outputs 230 V AC 2-fold

Type	Std. Pack	Part No.
gesis FLEX-0/2W without plug set	10	83.020.0624.0
gesis FLEX-0/2W Z with plug set	1	83.020.0624.1 2 outputs 4-pole GST18i4, black



The 2-fold shutter output 230 V/8 A in the flat surface-mounted housing, which can be on DIN rails for decentralized installation, is managed by the base module. It receives its mains supply and bus supply from the upstream module. The extensive parameter set enables different automation functions. The manual operation level allows function tests without prior system integration. The electrical connections, which are pluggable in accordance with IEC 61535, separate automation and installation. For 83.020.0624.1: all necessary plugs are enclosed.

Feed
Mains and bus connection from preceding module

Outputs
Mains and bus connection to next module


Dimensions
width: 130 mm mounted (140 mm with left cover)
height: 149 mm incl. plug lock
depth: 44 mm without top-hat rail

Installation
surface-mounted on TH35 mounting rail, system-compatible mounting frame or flat mounting surface

Accessories
extension modules from the **gesis** FLEX series

DIN rail system housing for 4 module widths

Type	Std. Pack	Part No.
gesis FLEX-REG4	1	83.020.0660.0



The DIN rail module is system-compatible with the flat surface-mounted module system for decentralized installation, which can be mounted on a mounting rail. It can accommodate rail-mounted devices according to DIN 43880 with four module widths. From the upstream module, the mains and bus supply is routed to the next module. The mains supply can be tapped internally. Cable entries are to be installed on-site.

Installation option
height / width / depth rail-mounted devices according to DIN 43880
90 mm (crossways to the top-hat rail) / 4 module widths (72 mm) / open to the top

Feed
mains from the preceding module can be tapped internally

Through-wiring
mains and bus routing from preceding module to next module

Dimensions
width: 130 mm mounted (140 mm with left cover)
height: 140 mm
depth: 80 mm without top-hat rail

Installation
surface-mounted on TH35 mounting rail, system-compatible mounting frame or flat mounting surface

DIN rail system housing for 4 module widths with entries

Type	Std. Pack	Part No.
gesis FLEX-REG4 V	1	83.020.0661.0



The DIN rail module is system-compatible with the flat surface-mounted module system for decentralized installation, which can be mounted on a mounting rail. It can accommodate rail-mounted devices according to DIN 43880 with four module widths. From the upstream module, the mains and bus supply is routed to the next module. The mains supply can be tapped internally. The module has four cable entries.

Installation option
height / width / depth

Feed

Through-wiring

Cable entries

Dimensions

Installation

rail-mounted devices according to DIN 43880
90 mm (crossways to the mounting rail) / 4 module widths (72 mm) / open to the top

mains from the preceding module can be tapped internally

mains and bus routing from preceding module to next module

for cable diameter 5–9 mm 2x; 7–13 mm 1x
width: 130 mm mounted (140 mm with left cover)
height: approx. 173 mm incl. screw fittings
depth: 80 mm without top-hat rail

surface-mounted on TH35 mounting rail, system-compatible mounting frame or flat mounting surface

DIN rail system housing for 4 module widths with hinged lid and screw fittings

Type	Std. Pack	Part No.
gesis FLEX-REG4 D (lid)	1	83.020.0662.0
gesis FLEX-REG4 DV (lid and screw fitting)	1	83.020.0663.0



The DIN rail module is system-compatible with the flat surface-mounted module system for decentralized installation, which can be mounted on a mounting rail. It can accommodate rail-mounted devices according to DIN 43880 with four module widths. From the upstream module, the mains and bus supply is routed to the next module. The mains supply can be tapped internally. The module has a transparent hinged lid to protect the internals as well as different cable entries depending on the model.

Installation option
height / width / depth

Feed

Through-wiring

Cable entries

Hinged lid

Dimensions

Installation

rail-mounted devices according to DIN 43880
90 mm (crossways to the mounting rail) / 4 module widths (72 mm) / 70 mm

mains from the preceding module can be tapped internally


mains and bus routing from preceding module to next module

for cable diameter 5–9 mm 2x; 7–13 mm 1x
transparent with lock
width: 130 mm mounted (140 mm with left cover)
height: approx. 173 mm incl. screw fittings
depth: 94 mm without top-hat rail

surface-mounted on TH35 mounting rail, system-compatible mounting frame or flat mounting surface

System extensions mains

Type	Std. Pack	Part No.
Mains extension 0.5 m	1	91.257.0500.2
Mains extension 1.0 m	1	91.257.1000.2



The mains extension for the flat surface-mounted module system for decentralized installation, which can be mounted on a mounting rail, may have a length of no more than one meter in the system. It locks automatically upon insertion. The mechanical coding means that the mains connection cannot be confused with the bus connection.


Mains extension

Nominal voltage	230/400V
Nominal current	3 x 16 A
Connector system	GST15i5 white

Installation insert and lock with the **gesis** FLEX modules

System extensions bus

Type	Std. Pack	Part No.
Bus extension 0.5 m	1	99.400.9999.8
Bus extension 1.0 m	1	99.401.9999.8



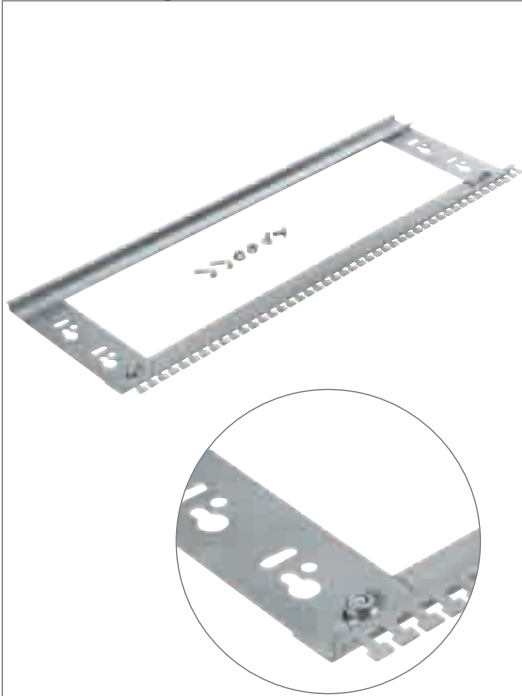
The extension of the internal bus for the flat surface-mounted module system for decentralized installation, which can be mounted on a mounting rail, may have a length of no more than one meter in the system. It locks automatically upon insertion. The mechanical coding means that the mains connection cannot be confused with the bus connection.

Mains extension

Nominal voltage	50 V
Nominal current	10 A
Connector system	GST15i5 light blue

Installation insert and lock with the **gesis** FLEX modules

Mounting frame



Type	Std. Pack	Part No.
Mounting frame	40 cm	1 Z5.524.1410.0
	50 cm	1 Z5.524.1510.0
	60 cm	1 Z5.524.1610.0
	70 cm	1 Z5.524.1710.0
	80 cm	1 Z5.524.1810.0
	90 cm	1 Z5.524.1910.0
	100 cm	1 Z5.524.2010.0

The mounting aid for the flat surface-mounted module system for decentralized installation, which can be mounted on a mounting rail, simplifies installation on cable support systems, ceilings, or walls. It accommodates up to six modules and has attachments for all incoming/outgoing cables. The hole pattern and supplied screws enable quick assembly.

Installation in cable duct with accompanying flat-head screws on mesh cable trays with accompanying clip bolts screw fastening to other substrates

Mounting rail TH35 integrated

Attachment of the cables with cable ties to the hammer head profile

Dimensions width: see above
height: 230 mm
depth: 15 mm

Number of modules and suggested length of the mounting frame

Base module + covers + installation	Binary input or intermediate feed	Switching, sunblind or DIN rail housing	Mounting frame length in cm	Order number
195 mm	95 mm	130 mm		
1	0	1	40	Z5.524.1410.0
1	0	2	50	Z5.524.1510.0
1	0	3	60	Z5.524.1610.0
1	0	4	80	Z5.524.1810.0
1	0	5	90	Z5.524.1910.0
1	0	6	100	Z5.524.2010.0
1	1	0	40	Z5.525.1410.0
1	1	1	50	Z5.525.1510.0
1	1	2	60	Z5.525.1610.0
1	1	3	70	Z5.525.1710.0
1	1	4	90	Z5.525.1910.0
1	1	5	100	Z5.525.2010.0
1	2	0	40	Z5.525.1410.0
1	2	1	50	Z5.525.1510.0
1	2	2	70	Z5.525.1710.0
1	2	3	80	Z5.525.1810.0
1	2	4	100	Z5.525.2010.0
1	3	0	50	Z5.525.1510.0
1	3	1	60	Z5.525.1610.0
1	3	2	80	Z5.525.1810.0
1	3	3	90	Z5.525.1910.0
1	4	0	60	Z5.525.1610.0
1	4	1	70	Z5.525.1710.0
1	4	2	90	Z5.525.1910.0
1	5	0	70	Z5.525.1710.0
1	5	1	80	Z5.525.1810.0



Energy savings

gesis uses the energy savings potential of the building.

The following can be monitored:

- presence/absence
- actual and target parameters
- demand-based regulation
- time-based controls



Renovation of the Max Planck Secondary School in Munich

The school building was renovated to improve its energy efficiency. This had to be done during the school holidays. The installation column was completely pre-assembled, making possible to finish the renovation within the 6 weeks of summer holidays.

The following devices are used:

- Installation column fitted, according to customer requirements, with:
 - RCCB/CB for all connections in the room
 - Overvoltage protection
 - **gesis** EIBRM for sunblinds and lighting
 - **gesis** EIBRM for coupling of push-buttons
 - loudspeakers and so on
- Presence detectors for constant light control



Installation column

The ideal solution for room automation

Intelligent and cost-effective installation.

Sophisticated installation not only increases the efficiency of learning, it also saves money. Sophisticated room automation makes considerable cost savings possible, especially in schools. Classrooms are empty much of the time: when the students move to other classes, or have the afternoon off, and during the weekend and holidays. During these times the room automation will switch the room to energy-saving mode. And a cost-intensive complete renovation is not always required; building automation can also be achieved with a limited budget.

Considerable savings potentials.

The study "Energy efficiency with building automation" that was conducted from May 2009 until May 2011 at the University of Applied Sciences Biberach highlighted a considerable savings potential. Depending on the level of automation, savings of up to 35 % of electrical energy and even up to 70 % of heating energy could be realized. And all this with the current inventory! Without structural changes!



Facing new challenges.

A room's electrical installation has to be able to keep up with innovation. Not all that long ago, it was sufficient to have an outlet for the overhead projector and the vacuum cleaner. Today, much more is required. Ethernet connections for PCs, ELA systems for sound equipment, connections for the projector, TV connections, etc.

But do we know what will be required in 10 or 20 years' time? Cable routes, automation, and also installation clearances should be designed in such a way that future design changes can be accommodated in a low-cost and flexible way.

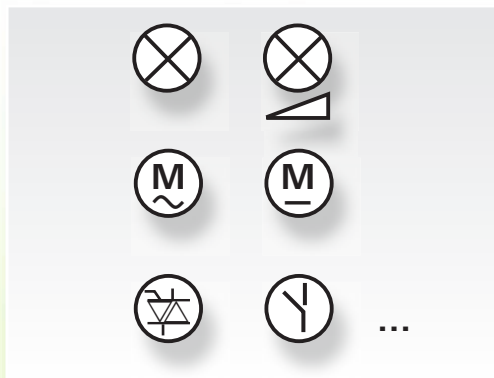
Wieland helps you perform your work effectively, and to all customers' satisfaction. The advantages provided at the initial installation will ensure your participation in any future modifications.

Benefits of the installation column

- Design and dimensions definable
- Complete installation space for all electrical installation devices in rooms including floor-ceiling-connection
- Delivery to the building site: pre-assembled and tested
- Short assembly times for building modifications, e.g. during school holidays
- Future-proof solution using KNX, LON, and EnOcean

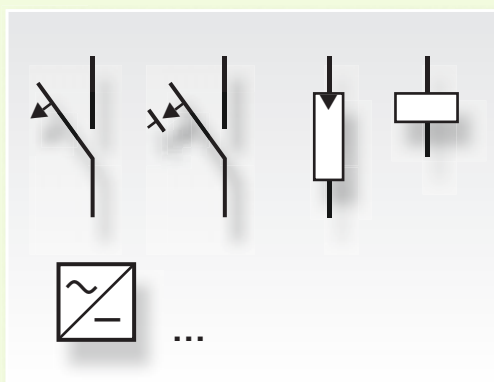
gesis[®] INSTALLATION COLUMN

Installation and automation in one system



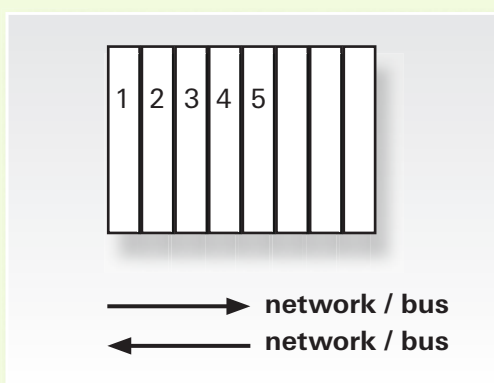
Room automation input/output **gesis**[®]RM:

- Lighting control
(switching, DALI, 1 – 10 V,
RLC dimming)
- Control of blinds (AC, DC)
- Heating control
(semiconductor outputs)
- Binary inputs
(floating, wireless)



Safety and built-in units:

- Residual current circuit breakers
- Line circuit breakers
- Overvoltage protection
- Power supply units
- and a lot more ...



Supply and distribution:

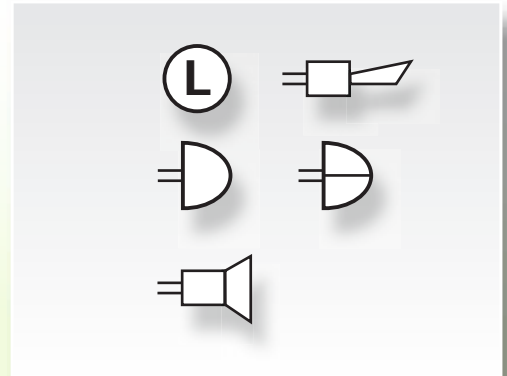
- Network supply
- Bus system supply
- Data supply
- Enough space for installation behind the
mounting plate between ceiling and floor





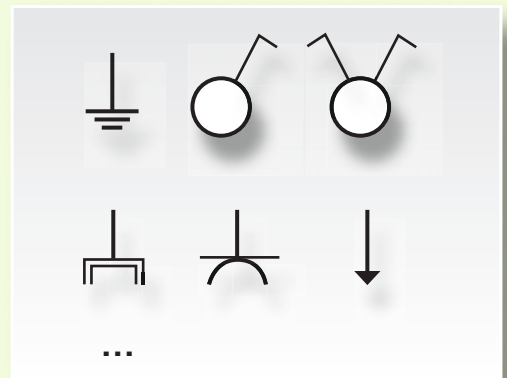
Installation space for:

- Loudspeakers
- Clocks
- Breaktime bell
- Security systems
- Miscellaneous electronics



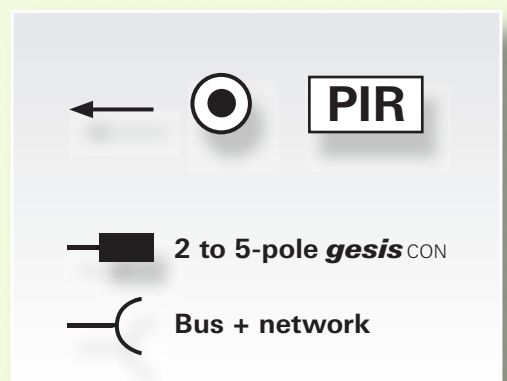
Switches and sockets:

- Hollow wall boxes, wired for
 - Media inputs (e.g. audio, PC)
 - Sockets
 - Switches
- Connection of conventional switches via push-button interfaces or binary inputs
- Switches, sockets, etc. on-site



Connections into the room:

- Lighting
- Blinds
- Push-buttons
- Sensors (e.g. via bus system)
- Pluggable with **gesis** CON
- Can be connected using Wieland DIN rail terminal blocks



Installation column:

Standard column

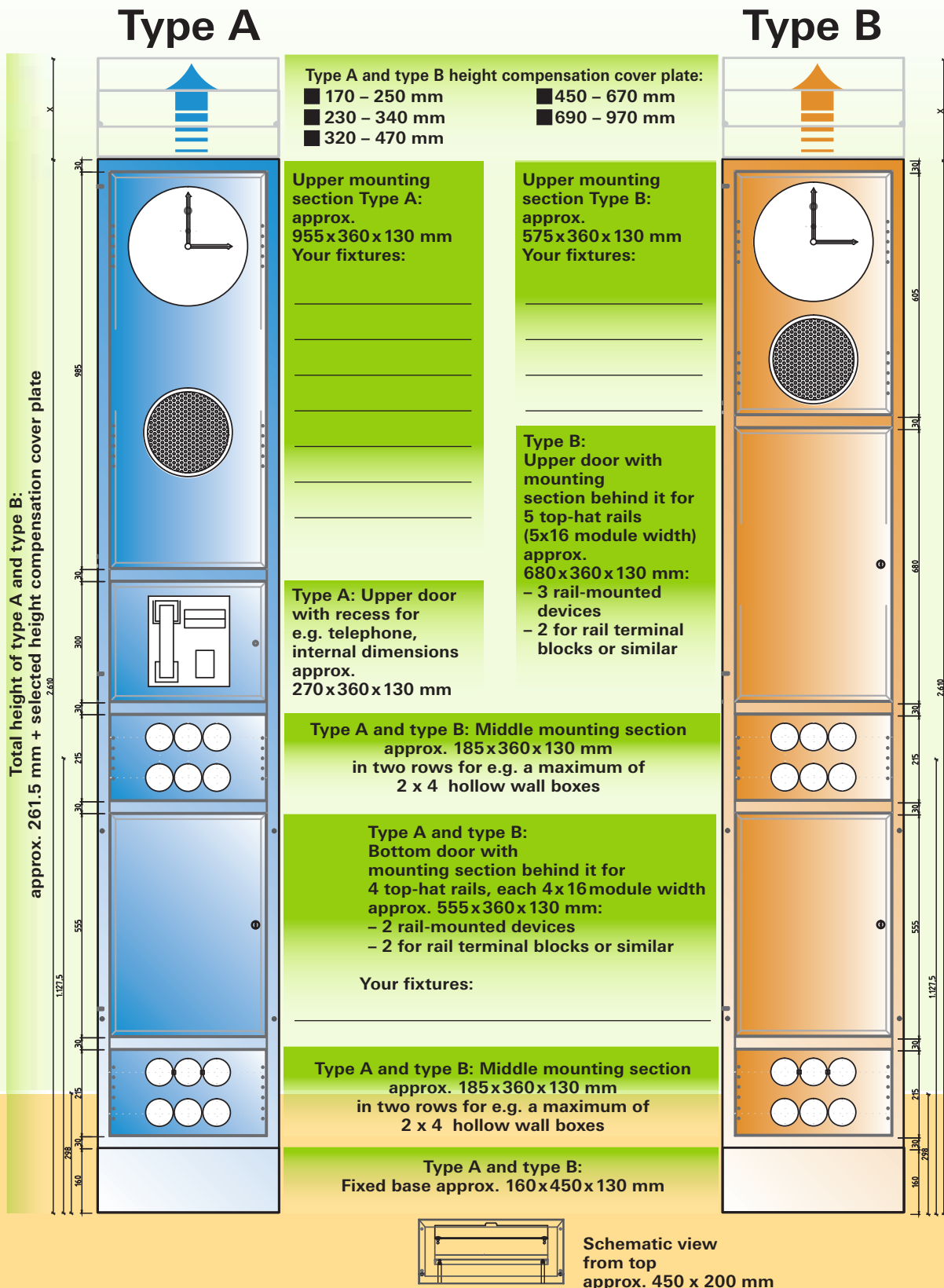
- Two basic models, type A and type B
- Many detail variant models

Columns freely configurable

- Height, width, and depth to almost any specification
- Choice of colors: Cream white, light gray, graphite black, signal black, brilliant blue, white-green, further colors on request
- Interior design to any specification

Standard Column Configuration Aid

Create Your Column From Two Strong Types



Using our configuration aid you can quickly and safely query a calculation for your applications and send it to us. You will receive a first draft of the installation column according to the information given, which will then be refined together with you in further steps. Download the Wieland optimization tools from our website, or – even more simple – get the configuration aid sent directly to your smart phone or tablet using the adjacent QR code.

We offer columns that differ from these two standard models. Please coordinate with your Wieland sales representative before ordering.

Installation Column Configuration Aid

Tick boxes or enter values

Colors (similar to RAL)

Installation column (Corpus)

cream white
(RAL 9001)

light grey
(RAL 7035)

graphite black
(RAL 9011)

signal black
(RAL 9004)

brilliant blue
(RAL 5007)

Doors

left:

right:

Electrical connections (from room to room)

Power / bus signal

NPower 1-pole

Power 3-pole

Cross-section

Bus signal

Incoming supply

Distribution

Protective devices

Switches or contactors

Main switch

Residual current circuit breaker (40 A, 30 mA)

Line circuit breaker (type B)

Number of poles:

Nominal current:

2-pole

4-pole

10 A

16 A

Overvoltage protection

Network,
type 2:

Network,
type 3:

Bus:

Building automation

KNX

LON

Number of binary inputs

floating

radio
(EnOcean)

Lighting

Type of lighting control

Number of groups

switched

DALI

1 - 10V

0 - 230V AC (RLC)

Sunblind / blackout

Type of control

Number and groups

AC

DC

Heating control

Type of regulation

Number of outputs

Voltage used

2-point

continuous

fan coil

Other

Fixtures

e.g. power supply units, system components,
for bus topology

Amount (we will assume you need

10 pieces if this is left blank)

Project name:

Amount/desired delivery date:

Company:

Contact person:

Street/number:

Postal code/city:

Telephone/e-mail:

Send via fax: +49 951 93 26-996 or e-mail

More information online, by e-mail at bit.ts@wieland-electric.com, by telephone: +49 951 93 24-996



www.wieland-electric.com



AMF-Bruns – Apener Maschinenbau

For over 50 years the name of AMF-Bruns, an owner-managed company, has been associated with the highest quality standards and technical knowledge in conveying systems. AMF-Bruns entrusted the Detlef Coldewey GmbH from Westerstede with the electrotechnical design and realization of a new administration building. In this building, the lighting is efficiently managed by a Wieland KNX presence detector together with a subsidiary Dali system. By using *gesis* consistently, the project could be realized within a very short time frame.

The following systems and devices are used:

- *gesis* presence detectors for lighting control
- *gesis* EIB V sunblind actuators for shading control
- flat cable system 7-pole with KNX and power for structured cabling
- LINECT Luminaire connection 5-pole for quick connection of power and DALI



Room automation and system devices

■ System devices

KNX network operation requires power supply units and line/backbone couplers as well as an interface connection to the PC for commissioning, testing or as a link between a PC-based visualization and the KNX network.

■ Motion and presence detection

Power-optimized operation of room automation requires presence and motion detectors. The detectors control or regulate the lighting system and also affect the heating, ventilation and air conditioning control with their presence messages.

■ Lighting control with DALI

The lighting control system DALI with its dimming and error message options is optimally suited to building automation. For this purpose, this sub-system must be linked to the building automation system. In addition to the actuators from the **gesis**^{RM} system the DALI gateway can be used for various connections.

■ Room thermostats and air conditioning

Optimized energy consumption in rooms requires an optimally controlled room climate. This is achieved by a combination of presence detectors and applicable room thermostats that affect the electrothermal valve controls or the corresponding actuators.

■ Integration of conventional push-buttons

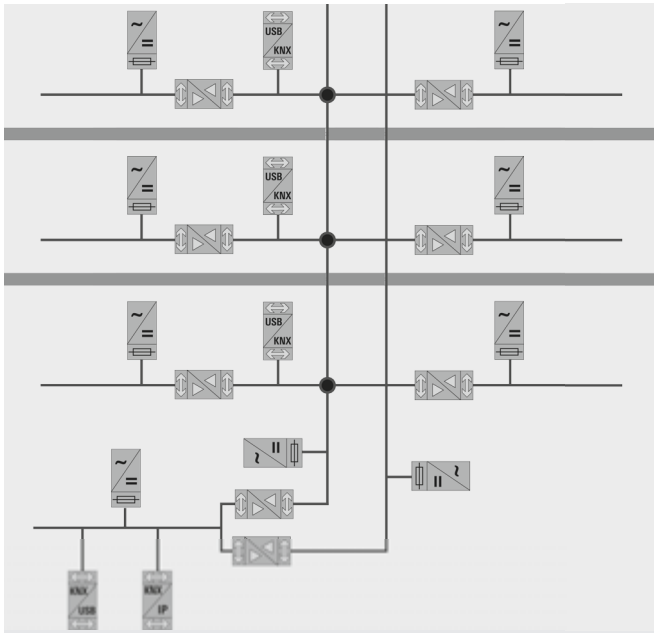
Push-buttons are optimally integrated in a cost-effective manner using binary inputs. In addition to the binary inputs from the **gesis**^{EIBM2} and **gesis**^{EIBRM} device series, push-button interfaces can be used as well.



Advantages of decentralized building automation

- Energy optimization with demand-based regulation
- High flexibility with change of use
- Considerably reduced wiring expenses
- Permanently clear cable management
- Small distribution rooms

Application example



General

The internationally standardized system for home and building automation functions with multivendor devices and can be used by all trades. It is therefore excellently suited to satisfying the desire for continuously optimized power utilization in buildings.

The system has no central control. It starts with a line with max. 64 bus devices and can be extended throughout various sections up to a system with more than 14,000 bus nodes. Thus it is suitable both for small and for very large buildings.

Radio, Powerline and Twisted-Pair are available as transmission media. Due to the system characteristics the Wieland devices exclusively function with the Twisted-Pair technology on KNX side.

See the following pages describing the devices for the following topics.

	83.020.1400.0	FO.000.0032.2	FO.000.0017.3	FO.000.0032.0	FO.000.0032.7	FO.000.0032.8	FO.000.0032.1	FO.000.0032.6	FO.000.0032.3	FO.000.0032.4	FO.000.0032.5	83.020.1404.0	83.020.1405.0	83.020.1406.0	83.020.1413.0	83.020.1414.0	83.020.1415.0	83.020.1416.0	83.020.1417.0	83.020.1418.0	
KNX voltage supply / mA															160	320	640				
	KNX interfaces																				
	USB <-> TP																				
	Line/backbone coupler TP/TP																				
	IP Router TP / LAN IP																				
	DALI Gateway DALI / TP																				
	Presence detectors and constant light																				
	Motion detection																				
	Standard room thermostat																				
	Fan coil room thermostat																				
Fan coil output																					
Valve actuators	Continuous, direct KNX-TP connection																				
	2-point electrothermal / voltage							24	230												
	Adapter ring VAxx									78	80										
	Push-button linkages / number of inputs											2	4	6							
Type of installation	DIN rail installation / MW			4			4									4	4	4	2	2	2
	On / in outlet socket																				
	Installation hole, 64 mm diameter																				
Voltages	at heating / cooling valve																				
	KNX																				
	230V																				
	24V																				
DALI																					

*1) The devices can be found in the gesis EIB V or gesis LON catalog sections.

**1) See the product range of the pluggable electrical installation system gesis CON



Office with heating/cooling system and constant light control

Requirements

The heating and cooling function of each room is to be controlled separately. A window contact is to be integrated into the system for energy-optimizing control. The lighting is dimmed with an presence detector and the room temperature is optimized. The conventional push-buttons for controlling light and sunblinds can be integrated into the building automation via push-button interfaces.

Realization

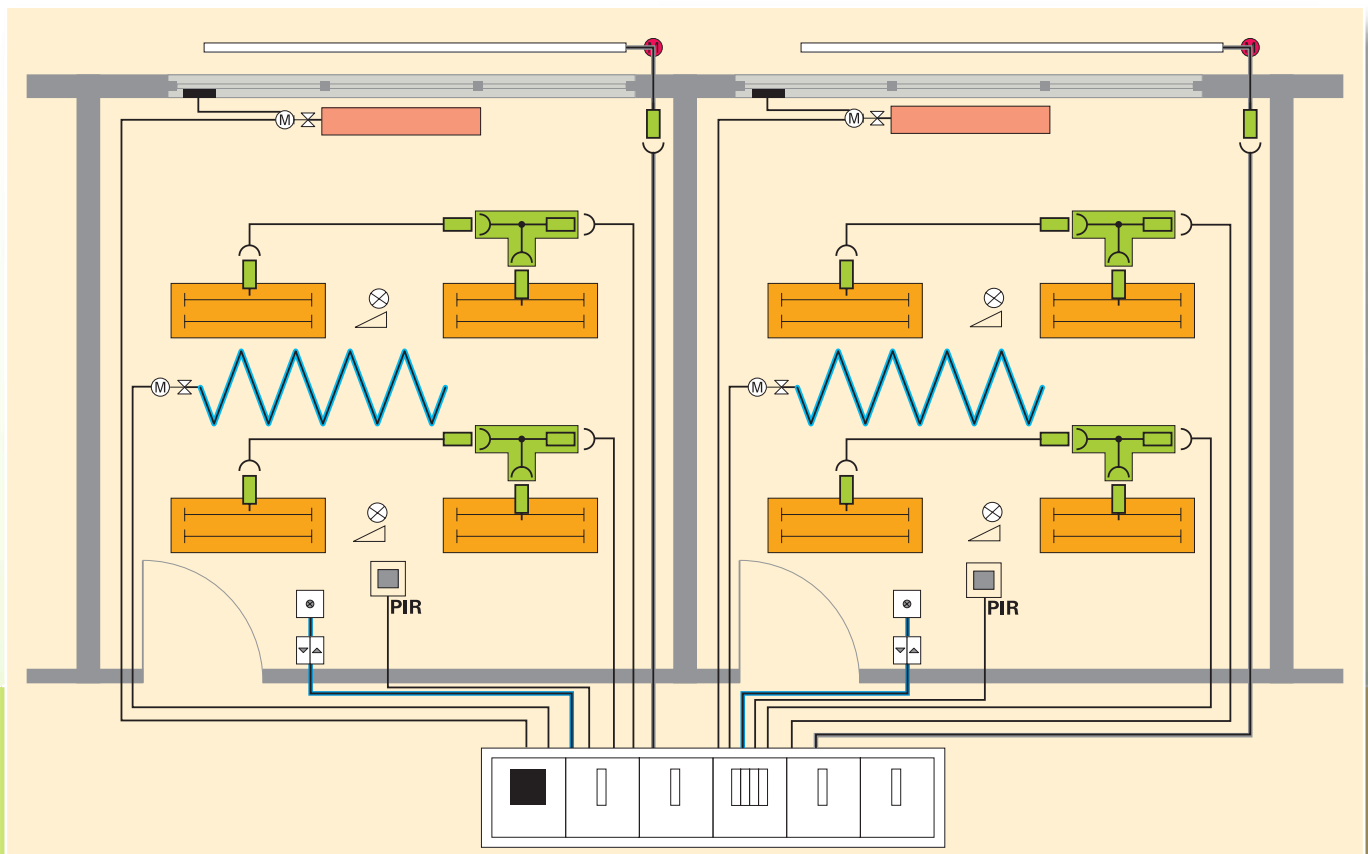
The necessary sensors are installed in each office. The drives for the control valves are connected directly to the KNX. The outputs for the lighting and the sunblinds from the **gesis** EIBRM series are used and installed decentrally with a **gesis** RAN for two offices each.

The following modules are required for that:

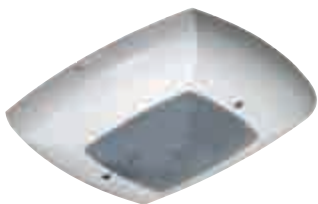
2 x room thermostats	gesisKNXRTRSP
2 x presence detectors	gesisKNXPCO
2 x push-button interfaces 6-fold	gesisKNXTA6/4
4 x continuous actuator with binary input	gesisKNXTHS
1 x base module KNX	gesisEIBRM2-BAS
1 x voltage supply	gesisRM-PS
2 x switching/dimming output	gesisRM-0/2SD
1 x sunblind output	gesisRM-0/2SI

Note


The controls can be modified from a central point (e.g. night mode, weekend mode). Additionally, the set values for the heating/cooling valves can be evaluated centrally to achieve perfect regulation of the primary heaters/coolers.




Presence detector

 <p>Presence detector for installation in the ceiling with integrated bus coupling unit and mixed light measurement with a square detection range (360°). It has two outputs for lighting group control, constant light regulation, or switching, as well as a presence detection output for HVAC control.</p>	Type	Part No.
	gesis KNX P CO Electrical data: Infeed Bus coupling unit Detection range Mixed light measurement Maximum detection range Detection range for a seated person Ambient temperature Mechanical data: Installation Dimensions Degree of protection	83.020.1400.0 KNX TP1 integrated horizontally 360°, vertically 120° 10 Lux – 1500 Lux 8 m x 8 m (installation height 3.5 m), 6 m x 6 m (installation height 2.5 m) 3 m x 3 m (installation height 2 m), 4.5 m x 4.5 m (installation height 3 m) 0°C to +50°C in in-wall outlet box 55 mm approx. 103 x 103 mm with a height of 33 mm IP40


Motion detector

 <p>KNX motion detector for installation in the ceiling with integrated bus link for brightness and motion-dependent control of lighting particularly in office and corridor spaces (including constant light regulation with master/slave function).</p>	Type	Part No.
	gesis KNX M 331 Electrical data: Infeed Bus coupling unit Detection range Light measurement Ambient temperature Mechanical data: Installation Dimensions	F0.000.0032.2 KNX TP1 integrated 7 m (installation height 2.8 m) 0 Lux - 700 Lux -5°C to + 45°C Installation in the ceiling (including installation frame) Installation hole 64 mm diameter Installation depth 60 mm Visible 76 mm diameter / 5 mm height


KNX DALI gateway

 <p>The KNX DALI gateway N 141 is a KNX device with a DALI output for up to 64 DALI actuators (e.g. electronic ballasts with DALI interface). DALI sensors are not allowed to be connected to the output. All gateway functions are parameterized through the ETS.</p>	Type	Part No.
	DALI Gateway N141 Electrical data: Infeed – bus/main power supply Bus connection Output - DALI Mechanical data: Installation Width	F0.000.0017.3 KNX TP1 / 110 – 240V AC/DC max. 7W Terminal block and data rail approx. 16V max. 64 DALI EBs DIN rail mount device for TH35 4 MW (72 mm)


Room thermostat

 <p>Room thermostats with integrated KNX bus coupling unit for control and regulation of valve controls and heating actuators. Three integrated inputs can be used for conventional switches/push-buttons or even for external temperature sensors (optional), window contacts or presence signals.</p>	Type	Part No.
	gesis KNX RTR SP	F0.000.0032.0
Electrical data:		
Infeed	KNX TP1	
Bus coupling unit	integrated	
Setting range	10°C to 28°C	
Measuring range	0°C to 40°C	
Mechanical data:		
Installation	In in-wall outlet box 55 mm or surface mount	
Dimensions	80 x 84 mm with a height of 27 mm	
Degree of protection	IP20	


Constant valve control

 <p>This motor-driven KNX valve control with two binary inputs and valve stroke indicator can be mounted to customary valves using an adapter (supplied). A fully automatic valve stroke detection dynamically adapts the contact path to the valve used.</p>	Type	Part No.
	gesis KNX TH S	F0.000.0032.1
Electrical data:		
Infeed	KNX TP1	
Valve stroke detection	Fully automatic	
Operating temperature	0°C to 50°C	
Mechanical data:		
Connection cable	approx. 1 m	
Valve stroke	max. 7.5mm; <20s/mm; 120N	
Applicable valves	Danfoss RA, Heimeier, MNG, Schlösser from 3/93, Honeywell Braukmann, Dumser (distribution units), Reich (distribution units), Landis & Gyr, Oventrop, Herb, Onda	
Degree of protection	IP21	
Dimensions	82 x 50 x 65 mm	


Fan coil room thermostat

 <p>This room thermostat with integrated bus coupling unit is used to control fan coil systems. It integrates a manual button for selection of the operating modes Off and Auto as well as the fan position. The three available binary inputs can be configured freely.</p>	Type	Part No.
	gesis KNX RTR FC	F0.000.0032.7
Electrical data:		
Infeed	KNX TP1	
Bus coupling unit	integrated	
Setting range	10°C to 28°C	
Measuring range	0°C to 40°C	
Mechanical data:		
Installation	In in-wall outlet box 55 mm or surface mount	
Dimensions	80 x 84 mm with a height of 27 mm	
Degree of protection	IP20	


Fan coil output 1 – 3 levels

 <p>The fan coil actuator for DIN rail mounting with integrated bus coupling unit is used to control fan coil devices with heating/cooling circuits and 3-level fans. Furthermore this actuator has two potential-free inputs that can be used for condensate monitoring or for window contacts.</p>	Type	Part No.
	gesis KNX FC 1-3	F0.000.0032.8
Electrical data:		
Infeed – bus/main power supply	KNX TP1 / 230V	
Outputs – valves	24 – 230V AC 0.5A	
Outputs – fans	230V AC 8A	
Inputs	potential-free	
Mechanical data:		
Installation	DIN rail mount device for TH35	
Width	4 MW (72 mm)	
Degree of protection	IP20	


Valve control, 2-level control, 230 V

 <p>The electrothermal 2-level valve control for 230 V can be mounted to customary valves simply by using a valve adapter. Valve adapters are not included.</p>	Type	Part No.
	gesis TH P230 Electrical data: Operating voltage Operating power Starting current Mechanical data: Connection cable Pluggable with gesis Closing/opening times Valve stroke Adapter Degree of protection Dimensions	F0.000.0032.3 230 V AC 50/60 Hz 1.8 W 300 mA for max. 200 ms, 250 mA for max. 2 min approx. 1 m we recommend gesis MINI (GST15i2) pre-assembly on request approx. 2.5 min (valve is closed without applying any power) 4 mm; 100 N; order separately IP54 60 x 44 x 61 mm


Valve control, 2-level control, 24 V

 <p>The electrothermal 2-level valve control for 24 V can be mounted to customary valves simply by using a valve adapter. Valve adapters are not included.</p>	Type	Part No.
	gesis TH P24 Electrical data: Infeed Operating power Starting current Mechanical data: Connection cable Pluggable with gesis Closing/opening times Valve stroke Adapter Degree of protection Dimensions	F0.000.0032.6 24 V 0 – 60 Hz 1.8 W 300 mA for max. 200 ms, 250 mA for max. 2 min approx. 1 m we recommend gesis MINI (GST15i2) pre-assembly on request approx. 2.5 min (valve is closed without applying any power) 4 mm; 100 N; order separately IP54 60 x 44 x 61 mm

Valve adapter ring VA78

 <p>Valve adapter ring VA 78 for easy installation of the valve controls. The adapter ring is placed on the valve, and the valve control is snapped on.</p>	Type	Part No.
	gesis TH VA78 Mechanical data: Applicable valves	F0.000.0032.4 Danfoss RA

Valve adapter ring VA80

 <p>Valve adapter ring VA 80 for easy installation of the valve controls. The adapter ring is placed on the valve, and the valve control is snapped on.</p>	Type	Part No.
	gesis TH VA80 Mechanical data: Applicable valves	F0.000.0032.5 Onda, Schüssler built after 1992, Oventrop M30 x 1.5, Heimeier, Herb, Therm-Concept, Frank, Roth (distribution units), Dinotherm (distribution units)

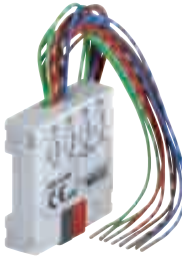
Push-button interface, 2-fold



The 2-fold push-button interface is a binary input/output device. It can be installed together with conventional push-buttons/switches in in-wall outlet boxes. This way all switching programs can be integrated into KNX systems. The inputs can be configured as outputs for LEDs.

Type	Part No.
gesis KNX TA 2/2	83.020.1404.0
Electrical data:	
Infeed	KNX TP1
Inputs	2 for potential-free contacts
Scanning voltage	3.3V / 0.5 mA
Outputs	2 when configured as LED
Output current	low current 1mA (LED 1 mA types)
Operating temperature	-5°C to +45°C
Mechanical data:	
Installation	in in-wall outlet box
Cable length	25cm, extendable to max. 5m
Dimensions	37 x 37 x 10mm

Push-button interface, 4-fold



The 4-fold push-button interface is a binary input/output device. It can be installed together with conventional push-buttons/switches in in-wall outlet boxes. This way all switching programs can be integrated into KNX systems. The inputs can be configured as outputs for LEDs.

Type	Part No.
gesis KNX TA 4/4	83.020.1405.0
Electrical data:	
Infeed	KNX TP1
Inputs	4 for potential-free contacts
Scanning voltage	3.3V / 0.5 mA
Outputs	4 when configured as LED
Output current	low current 1 mA (LED 1 mA types)
Operating temperature	-5°C to +45°C
Mechanical data:	
Installation	in in-wall outlet box
Cable length	25cm, extendable to max. 5m
Dimensions	37 x 37 x 10mm

Push-button interface, 6-fold



The 6-fold push-button interface is a binary input/output device. It can be installed together with conventional push-buttons/switches in in-wall outlet boxes. This way all switching programs can be integrated into KNX systems. Four of the six inputs can be configured as outputs for LEDs.

Type	Part No.
gesis KNX TA 6/4	83.020.1406.0
Electrical data:	
Infeed	KNX TP1
Inputs	6 for potential-free contacts
Scanning voltage	3.3V / 0.5 mA
Outputs	4 when configured as LED
Output current	low current 1 mA (LED 1 mA types)
Operating temperature	-5°C to +45°C
Mechanical data:	
Installation	in in-wall outlet box
Cable length	25cm, extendable to max. 5m
Dimensions	37 x 37 x 10mm

Power supply unit KNX 160 mA



Power supply unit for KNX TP1 networks with integrated choke and a rated current of 160 mA. The DIN rail mount device for distribution unit installation supplies KNX devices on shorter lines. The voltage is tapped off a terminal block at the front of the housing.

Type	Part No.
gesis KNX PS160	83.020.1413.0
Electrical data:	
Infeed	120 to 230 V AC
Output voltage	29 V DC SELV
Output current	160 mA
Bus connection	terminal block
Choke	integrated
Mechanical data:	
Installation	DIN rail mount device for TH35
Width	4 MW (72 mm)

Power supply unit KNX 320 mA



Power supply unit for KNX TP1 networks with integrated choke and a rated current of 320 mA. The DIN rail mount device for distribution unit installation supplies KNX devices on standard lines. The voltage is tapped off a terminal block at the front of the housing.

Type	Part No.
gesis KNX PS320	83.020.1414.0
Electrical data:	
Infeed	120 to 230 V AC
Output voltage	29 V DC SELV
Output current	320 mA
Bus connection	terminal block
Choke	integrated
Mechanical data:	
Installation	DIN rail mount device for TH35
Width	4 MW (72 mm)

Power supply unit KNX 640 mA



Power supply unit for KNX TP1 networks with integrated choke and a rated current of 640 mA. The DIN rail mount device for distribution unit installation supplies KNX devices of a standard line and includes an output for the unchoked voltage through a second terminal block at the front of the housing. The unchoked voltage is tapped off a terminal block at the front of the housing.

Type	Part No.
gesis KNX PS640	83.020.1415.0
Electrical data:	
Infeed	120 to 230 V AC
Output voltage	29 V DC SELV
Output current	640 mA
Bus connection	terminal block
Choke	integrated
Unchoked voltage	on terminal block
Mechanical data:	
Installation	DIN rail mount device for TH35
Width	4 MW (72 mm)


USB interface




The interface is used to create a bidirectional connection between a PC and the KNX installation bus. The USB connection is electrically isolated from the KNX bus. The interface is compatible with the ETS (Engineering Tool Software), from ETS3 and higher, and is also supported by various visualization programs.

Type	Part No.
gesis KNX USB	83.020.1418.0
Electrical data:	
Infeed KNX	through the line
Bus connection KNX	terminal block
Infeed USB	via PC
Connection USB	USB socket type B, max. 5 m
Mechanical data:	
Installation	DIN rail mount device for TH35
Width	2 MW (36 mm)


Line/backbone coupler

 <p>The line/backbone coupler is used to couple lines and backbones; it can be used as a line amplifier, too. Both the primary and the secondary lines are connected via terminal blocks.</p>	<table border="1"> <thead> <tr> <th>Type</th> <th>Part No.</th> </tr> </thead> <tbody> <tr> <td>gesis KNX LK</td> <td>83.020.1416.0</td> </tr> </tbody> </table>	Type	Part No.	gesis KNX LK	83.020.1416.0
	Type	Part No.			
gesis KNX LK	83.020.1416.0				
<p>Electrical data: Primary line DC 24 (for device supply) Secondary line DC 24V</p> <p>Mechanical data: Installation DIN rail mount device for TH35 Width 2 MW (36 mm)</p>					


IP router

 <p>The KNX IP router enables telegram routing between various lines through a LAN (IP) used as a fast backbone. This way the device replaces the KNX line coupling unit. In parallel, the KNX IP router can be used as an interface for bus access via IP. The IP address can be assigned via a DHCP server or through manual configuration (ETS).</p>	<table border="1"> <thead> <tr> <th>Type</th> <th>Part No.</th> </tr> </thead> <tbody> <tr> <td>gesis KNX IP-R</td> <td>83.020.1417.0</td> </tr> </tbody> </table>	Type	Part No.	gesis KNX IP-R	83.020.1417.0
	Type	Part No.			
gesis KNX IP-R	83.020.1417.0				
<p>Electrical data: Infeed 12 – 24V AC or 12 – 30V DC alternatively Power-over-Ethernet Power consumption < 800 mW Connection – infeed screw terminals Bus connection terminal block Ethernet connection LAN socket RJ45</p> <p>Mechanical data: Installation DIN rail mount device for TH35 Width 2 MW (36 mm)</p>					

Surge arrester KNX TP

 <p>The type 2 arrester with KNX certification for KNX-TP systems has been tested according to EN 61643-21. It can directly replace the terminal block on KNX devices. The 200 mm earthing conductor is connected directly to the device.</p>	<table border="1"> <thead> <tr> <th>Type</th> <th>Part No.</th> </tr> </thead> <tbody> <tr> <td>gesis KNX OVP</td> <td>F0.000.0008.3</td> </tr> </tbody> </table>	Type	Part No.	gesis KNX OVP	F0.000.0008.3
	Type	Part No.			
gesis KNX OVP	F0.000.0008.3				
<p>Electrical data: Arrester class type 2 Rated/continuous voltage 24V/45V (for KNX TP) KNX connection spring contact (as terminal, directly pluggable to KNX device) cables Ø 0.8 mm/200 mm long cables 0.75 mm²/200 mm long</p> <p>Ground connection</p> <p>Mechanical data: Arrester in mm 12 x 11 x 11 Cables length approx. 200 mm</p>					

KNX connection module

 <p>The KNX connection module enables a simple tap of the KNX TP1 network in distribution units. The system integrator can access the network with the connection module, without removing field covers and therefore without interfering with the electrical installation.</p>	<table border="1"> <thead> <tr> <th>Type</th> <th>Part No.</th> </tr> </thead> <tbody> <tr> <td>gesis KNX REG AM</td> <td>F0.000.0033.8</td> </tr> </tbody> </table>	Type	Part No.	gesis KNX REG AM	F0.000.0033.8
	Type	Part No.			
gesis KNX REG AM	F0.000.0033.8				
<p>Electrical data: KNX Twisted Pair (SELV) Nominal current 3A Connection type terminal block (under distributor cover) pluggable to outside (BST 14i2)</p> <p>Mechanical data: Installation on TH35 e.g. in distributors Width 2 pitch units (36 mm)</p> <p>Accessories: Connectors BST 14i2 e.g. 93.422.0553.1</p>					



European Court of Justice in Luxembourg

The building was equipped with a decentralized, pluggable electrical installation by Wieland. *gesis*^{EIBRM} integrated in a *gesis*^{RAN} was used. The distribution unit variants were reduced to a minimum.

The following devices are used:

- *gesis*^{EIBRM} base module for managing the extension modules
- *gesis*^{EIBRM} sunblind modules 230V AC and 24V DC for sunblind and shade control
- *gesis*^{EIBRM} switching application for lighting control
- Cable assemblies and connectors



gesis[®] RM

Modular devices for flexible and decentralized installation

The **gesis**[®] RM module series enables highly flexible, high-performance and error-free decentralized installations with clearly reduced consumption of switching, sensor and end device cabling.

A maximum of four extension modules can be connected to a base module. The base module and extension module communicate through a flat cable and form one physical address or node. As the module series controls lighting, sunblinds, heating/ventilation/air conditioning devices and provides both radio technology and binary inputs, various requirements can be fulfilled with coherent concepts.

gesis[®] RM is suitable for any bus system. It is possible to select a base module which enables connection to either KNX or LON. This feature provides the highest possible degree of flexibility in planning: the distribution unit's function can be determined at an early stage, while the decision about the bus system does not have to be made until later.

The connector type and quantity can be determined as required thanks to the use of remotely installable distribution boxes, the so-called **gesis**[®] RAN.

Any configurations which may become necessary for the electrical installation system can be integrated quickly and easily, made possible by the convenient knockouts.

■ Optimal commissioning

Easy assembly and pluggability of all electrical connections allow for fast installation without the need for tools. The entire module can be programmed and tested in the room in advance. This creates clear interfaces between system integration and installation and saves a lot of time and cost at the site.



Benefits of the **gesis**[®] RM device series

- **Modular device arrangement – One physical address for various functions**
- **Low installation height of <55 mm**
- **Optimized for decentralized room automation**
- **Pluggability with **gesis**[®] CON
Simple, error-free installation**
- **Installation in **gesis**[®] RAN to any specification – suitable for any requirement**

Common data of the *gesis* RM device series

Dimensions (length/width/height in mm)

Width in the direction of the DIN rail (MW) 49mm (2.7 MW)

Height 100mm

Depth incl. mounting rail TH 35x7.5 52mm

Degree of protection IP00

Due to degree of protection IP00 the devices must be installed inside a **gesis** distribution box or a similar housing.

Housing halogen-free

Housing color black

Installation type on TH 35 mounting rail

Software The extension modules are managed exclusively in the base module

KNX Product database for ETS available at www.wieland-electric.com

	KNX base module 83.020.0400.0	LON base module 83.020.0300.3	Power supply unit 1-fold 83.020.0401.0	Power supply unit 2-fold 83.020.0421.0	Binary input 8-fold 83.020.0402.0	Radio input 16-fold 83.020.0408.0	Switching output 4-fold 83.020.0403.0	Sunblind output 2-fold 230V 83.020.0404.0	Sunblind output 2-fold 24V DC 83.020.0407.0	Switching/dimming output, 2-fold 83.020.0405.0	Universal dimmer 2-fold 83.020.0409.0	DALI output 2-fold 83.020.0410.0	Semiconductor output 4-fold wide range 83.020.0406.0	Semiconductor output AC 83.020.0411.0	Semiconductor output DC 83.020.0412.0	
Functions	Management of x extension modules (slots on the base module)	4	4													
	Supply for x base modules			1	2											
	x slots occupied					1	2	1	1	1	1	1	1	1	1	
	Binary inputs					8										
	Radio inputs						2 x 8									
	Switching outputs, 16 A (relay)							4								
	Sunblind outputs 230V 5 A								2							
	Sunblind outputs 24V DC 5 A									2						
	Switching/dimming output 230V / 1 – 10V										2					
	Universal dimmer 2 x 250V A RLC load											2				
	DALI output broadcast 2 x 8 EBs												2			
	Semiconductor output 24 – 230V AC/DC 0.5 A													4		
	Semiconductor output 230V AC 0.5 A														4	
Semiconductor output 24V DC 0.5 A															4	
Voltage/ supply	Auxiliary voltage / supply 230V															
	Auxiliary voltage 12V RM power supply															
	Screw terminals	0.14 – 1.5 mm ² solid (inputs)														
		0.14 – 1.0 mm ² solid (inputs)														
Antenna connection	0.14 – 4.0 mm ² solid															
	0.14 – 2.5 mm ² fine stranded															
	SMA socket															



Office with heating/cooling system with gesis® EIB RM

Requirements for each office

- two switched lighting circuits
- one sunblind
- one heating valve (24V, 2-point control)
- one cooling valve (24V, 2-point control)
- window position detection
- push-buttons and room temperature controllers with direct bus capability
- separate incoming supply for lighting and sunblinds

1 x sunblind output 2-fold	gesis RM-0/2W SI
1 x semiconductor switching output 4-fold heating/cooling valves	gesis RM-4HL
1 x binary input 8-fold window contacts	gesis RM-8/0 (12)

Installation of the modules inside a customized **gesis** RAN.

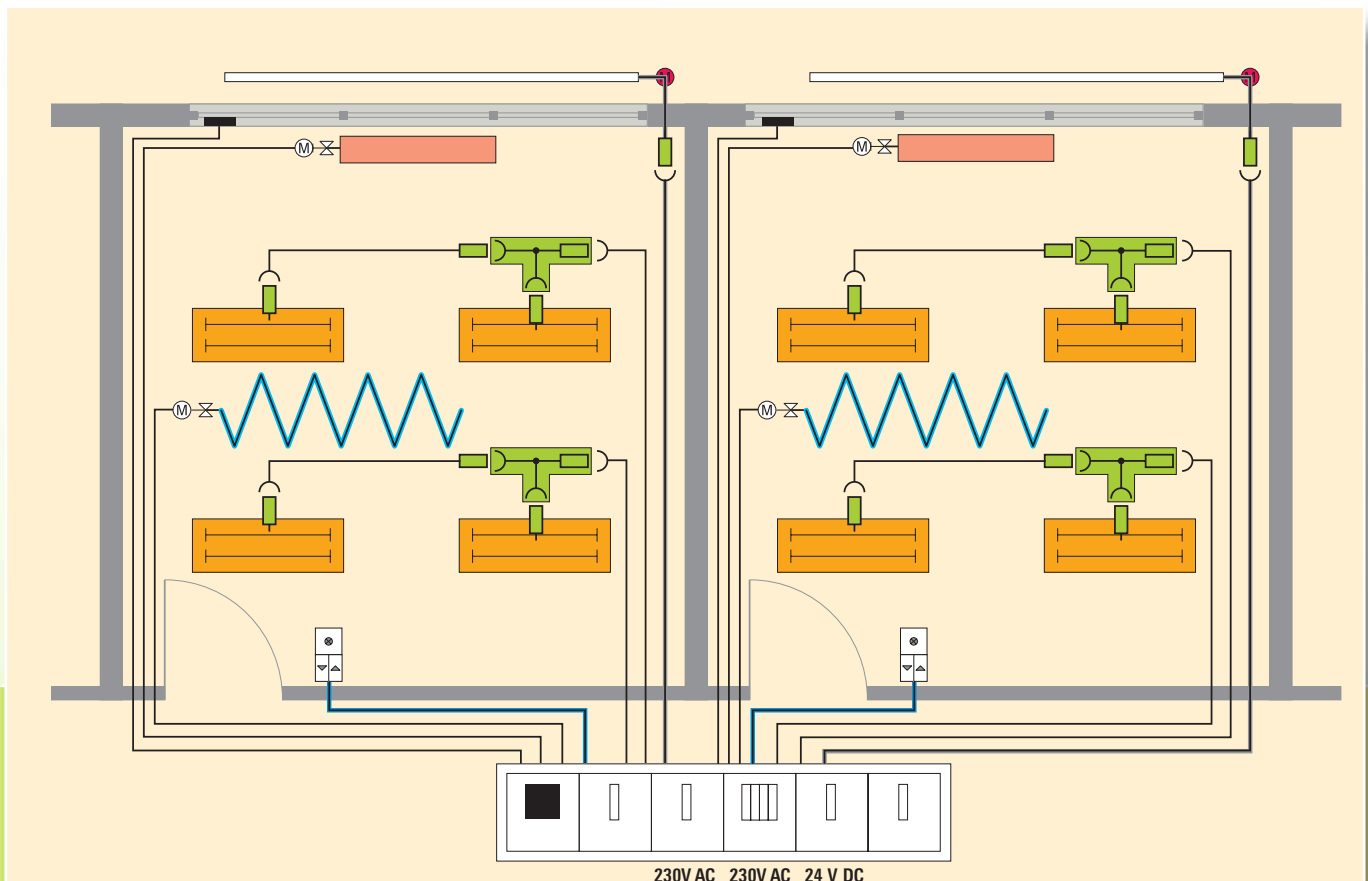
Note

The binary input still has six available input contacts. These can be used, for example, for conventional push-buttons to control the sunblinds directly at the window.

Realization

Two offices are controlled with one **gesis** RAN distribution unit equipped with the following modules:

- 1 x base module KNX gesis EIB RM2-BAS
- 1 x switching application 4-fold lighting gesis RM-0/4



KNX RM base module



The KNX RM base module manages up to four extension modules. The extension modules are connected with a flat cable to the base module; the flat cable is supplied with the extension modules. Regardless of the number of extension modules, the module counts as one physical address.

Type	Part No.
gesis EIB RM2-BAS	83.020.0400.3
Infeed: Supply Bus	12V DC from gesis RM-PS KNX TP 1
Outputs:	four slots for flat cables to the extension modules
Accessories:	gesis RM-PS

LON RM base module



The LON RM base module manages up to four extension modules. The extension modules are connected with a flat cable to the base module; the flat cable is supplied with the extension modules. Regardless of the number of extension modules, the module counts as one LON node.

Type	Part No.
gesis LON RM2-BAS	83.020.0300.3
Infeed: Supply Bus Extension module	12V DC from gesis RM-PS LON (FTT 10A transceiver)
Outputs: Extension module	four slots for flat cables to the extension modules
Accessories:	gesis RM-PS

Power supply unit for one base module



One base module can be connected to the power supply unit. The power supply unit supplies the base module and, through it, the connected extension modules, too.

Type	Part No.
gesis RM-PS	83.020.0401.0
Infeed: Supply	230V AC
Output:	12.5V DC SELV / 160mA for one base module

Power supply unit for 2 base modules



Two base modules can be connected to the power supply unit. The base module and, through it, also the extension modules are supplied with energy.

Type	Part No.
gesis RM-PS 12/5	83.020.0421.0
Infeed: Supply	230V AC
Output:	12.5V DC SELV / 400mA for two base modules

Extension module binary input 8-fold



Eight independent potential-free contacts can be connected to the binary input. The scanning voltage of 12 V DC is provided by the module.

Type	Part No.
gesis RM-8/0 (12)	83.020.0402.0
Infeed:	
Supply	230 V AC
Base module	pluggable flat cable on the front panel
Inputs:	
Quantity	8, for potential-free contacts max. cable length 100 m each
Scanning voltage	12 V DC SELV, provided by the module
Accessories:	RM base module

Extension module radio input EnOcean 2 x 8-fold



The radio input can manage 2 groups of eight inputs each. One slot per group is required on the base module. The radio sensors (e.g. push-buttons) are assigned directly on the module without any additional software (EnOcean learn mode).

Type	Part No.
gesis RM-16/0 (RC)	83.020.0408.0
Infeed:	
Base module	pluggable flat cable on the front panel
Inputs:	2 x 8, EnOcean sensors a total of 170 EnOcean telegrams can be programmed for the 16 inputs
Accessories:	RM base module antenna with SMA plug; we recommend the Wieland antenna 83.020.0503.0

Antenna for EnOcean devices with external antenna



The 868.6 MHz antenna is suitable for connection to Wieland **gesis** devices with a SMA socket. The black antenna can be fastened with a magnetic foot and has a 2.5m connection cable.

Type	Part No.
Antenna	83.020.0503.0
Antenna	
– 868.3 MHz antenna	
– fastened with magnetic foot	
– incl. approx. 2.5m connection cable and SMA plug	

Extension module binary output 4-fold



The 4-fold switching output has four independently controllable relays. Strict isolation of the relay outputs enables connection of various phase conductors.

Type	Part No.
gesis RM-0/4	83.020.0403.0
Infeed:	
Supply	switching voltage for the outputs
from the base module	pluggable flat cable on the front panel
Outputs:	4, potential-free contacts 230 V; 16 A ohmic load
Accessories:	RM base module

Extension module 2-fold sunblind output



The 2-fold sunblind output for 230V motors with two directions of rotation can directly position the sunblind and the slat angle for each of the two outputs separately. Fusing of the outputs inside the module considerably facilitates troubleshooting in the case of a short circuit inside the sunblind circuit.

Type	Part No.
gesis RM-0/2W SI	83.020.0404.0
Infeed: Supply from the base module	230V AC (switching voltage for outputs) pluggable flat cable on the front panel
Outputs: Quantity	2, for potential-free change-over contacts with neutral center position
Fuse	230V / 5 AT integrated in the device for the two outputs together
Accessories:	RM base module

Extension module sunblind output 2-fold for 24V DC drives



The 2-fold sunblind output for 24V DC motors with two directions of rotation (pole reversion) can optionally position the two outputs separately. Fusing of the outputs inside the module considerably facilitates troubleshooting in the case of a short circuit inside the sunblind circuit.

Type	Part No.
gesis RM-0/2W DC	83.020.0407.0
Infeed: Supply from the base module	24V DC (switching voltage for outputs) pluggable flat cable on the front panel
Outputs: Quantity	2, potential-free with pole reversion
Fuse	5 AT integrated in the device for both outputs together
Rated voltage	6 – 24V DC
Accessories:	RM base module

Extension module 2-fold switching/dimming output



The switching/dimming actuator has two isolated outputs with one switching and one control output each. Strict isolation of the outputs enables connection of various phase conductors.

Type	Part No.
gesis RM-0/2SD	83.020.0405.0
Infeed: Supply from the base module	230V AC for supply of the electronic 230V AC (Switching voltage for outputs) Pluggable flat cable on the front panel
Outputs: Main power supply Control output	2 potential-free contacts for 230V; 16A 1 – 10V, max. 50mA (passive)
Accessories:	RM base module

Extension module 2-fold universal dimmer



The universal dimmer has two isolated outputs. Both outputs can automatically be adapted to the dimming behavior of the connected load (R, L, C). Mixed loads per output are not possible.

Type	Part No.
gesis RM-0/2D	83.020.0409.0
Infeed: Supply from the base module	230V AC (main supply voltage to be dimmed) pluggable flat cable on the front panel
Outputs:	2 0 – 230V AC, max. 250V A each R, L, C load (self-recognition)
Accessories:	RM base module

Extension module 2 x 8-fold DALI actuator



The DALI output has two isolated output circuits. These are used as a master and control the maximum of 8 connected electronic ballasts via broadcast commands. Error feedback is possible for each output.

Type	Part No.
gesis RM-0/2DA	83.020.0410.0
Infeed: Supply from the base module	230V AC pluggable flat cable on the front panel
Outputs:	2, DALI as master max. 8 DALI EBs each (16mA) commands as broadcast
Accessories:	RM base module

Extension module 4-fold semiconductor output universal



The semiconductor output is used to control four isolated circuits, for example, for electrothermal valves. As it is capable of switching 24V to 230V AC or DC, it is ideally suited to avoiding planning mistakes.

Type	Part No.
gesis RM-0/4 (HL)	83.020.0406.0
Infeed: Supply from the base module	switching voltage for the outputs pluggable flat cable on the front panel
Outputs:	4, semiconductor outputs 230V AC or 24V DC, max. 0.5A per output
Accessories:	RM base module

Extension module 4-fold semiconductor output AC



The semiconductor output is used to control four isolated circuits, for example, for electrothermal valves. The switching voltage is 230V AC.

Type	Part No.
gesis RM-0/4 HL AC	83.020.0411.0
Infeed: Supply from the base module	switching voltage for the outputs pluggable flat cable on the front panel
Outputs:	4, semiconductor outputs 12 – 230V AC, max. 0.5A per output
Accessories:	RM base module

Extension module 4-fold semiconductor output DC



The semiconductor output is used to control four isolated circuits, for example, for electrothermal valves. The switching voltage is 24V DC.

Type	Part No.
gesis RM-0/4 HL DC	83.020.0412.0
Infeed: Supply from the base module	switching voltage for the outputs pluggable flat cable on the front panel
Outputs:	4, semiconductor output 24V DC, max. 0.5A per output
Accessories:	RM base module



Schwabenhof in Heilbronn

This building with its extraordinary architecture was designed by the Arbeitsgemeinschaft Riemer Planung and Lucie Holzigel and serves the headquarters for the Heilbronn-based plumbing company Roland Hertner. The **gesis** EIB M2 modular system controls the sun protection. The sunblinds are controlled by conventional push-buttons that have been integrated in KNX via binary inputs.

The following devices are used:

- **gesis** EIB M2 base module for managing the extension modules
- **gesis** EIB M2 binary inputs for integration of window contacts
- **gesis** EIB M2 sunblind actuators for controlling the shutters
- Cable assemblies and connectors



Image source:
"Riemer Planung and Lucie Holzigel"

gesis[®] EIB M2

Modular devices for clear and sustainable installation

■ General

The **gesis** EIB M2 device series is a modular KNX device. A maximum of flexibility is achieved through the possibility of connecting several extension modules to a base device. The devices are designed for decentralized installation in suspended ceilings or raised floors without an additional housing.

■ Clear and sustainable installation

The different functions of a base device make room automation very clear. One single physical address is enough for simple installations for one room. This makes integration and installation easy and clear. Often, not all of the six extension modules are used in the initial installation. For modifications, simply add a module and upgrade the software.



■ Cost-effective automation solution

The binary inputs allow for easy integration of inexpensive push-buttons according to the customer's furnishing concept. Together with the outputs for switches, sunblind and switching/dimming, they form one physical address. This saves a considerable amount of system resources. In the following example, the task is to design a concept for 128 offices with a single KNX line with 64 nodes.

■ Optimal commissioning

Easy assembly on a DIN rail and pluggability of all electrical connections allow for fast installation without the need for tools. The entire module can be assembled, programmed and tested in the room in advance. This creates clear interfaces between system integration and installation and saves a lot of time and cost at the site.

Benefits of the **gesis**[®] EIB M2 device series

- **Decentralized installation without additional housing**
- **Easy installation via snap-on connection to DIN rail**
- **Quick and error-free installation with pluggable connections**
- **Optimized devices for use in building with standard office axes**
- **Interoperability with certified KNX devices**

Common data of *gesis* EIB M2 device series

Dimensions (length/width/height in mm)

Width in the direction of the DIN rail	62 (base module) 31 (daisy-chained extension module)
Height	80 (without connectors)
Depth incl. mounting rail TH 35x7.5	120
Degree of protection	IP 20
Housing	halogen-free
Housing color	light gray similar to RAL 7035
Installation technique	on TH35 mounting rail
Electrical connections	only pluggable
Connectors and cables	see the product range of the pluggable electrical installation system gesis CON
Certification	KNX-certified
Software	product database for ETS at www.wieland-electric.com

		gesis EIB M2 base module 83.020.1020.0	Binary input, 4-fold 230V AC 83.020.1021.0	Binary input, 4-fold 24V DC 83.020.1022.0	Power switch, 2-fold 83.020.1023.0	Sunblind output, 2-fold 83.020.1024.0	Switching/dimming output, 1-fold 83.020.1026.0
Functions	Management of x gesis EIB M2 extension modules	6					
	Inputs 230 V AC		4				
	Inputs 24 V DC			4			
	Power switch 230V, no short-circuit protection						
	Parallel sunblind outputs					2	
	Switching/dimming output 230V / 1–10V						1
	Phase selection with jumper				X	X	X
	Firmly assigned phase conductor	L2	L3	L1			
Connector/connection^{*)}	Main supply input						
	Bus input						
	5-pole GST 18i5 black						
	Automatic contacting by daisy-chaining						
	2-pole BST 14i2 green						
	Internal bus, automatic contacting						
	Input						
4-pole GST 18i4 gray							
5-pole GST 18i5 light blue							
Output							
3-pole GST 18i3 black							
4-pole GST 18i4 black							
5-pole GST 18i5 pastel blue							

^{*)} See the product range of the pluggable electrical installation system **gesis** CON



Two standard office spaces

Requirements

In an office two lighting circuits and one sunblind circuit shall be controlled via KNX. In order to optimize the costs, conventional switches are to be integrated into the network.

Implementation

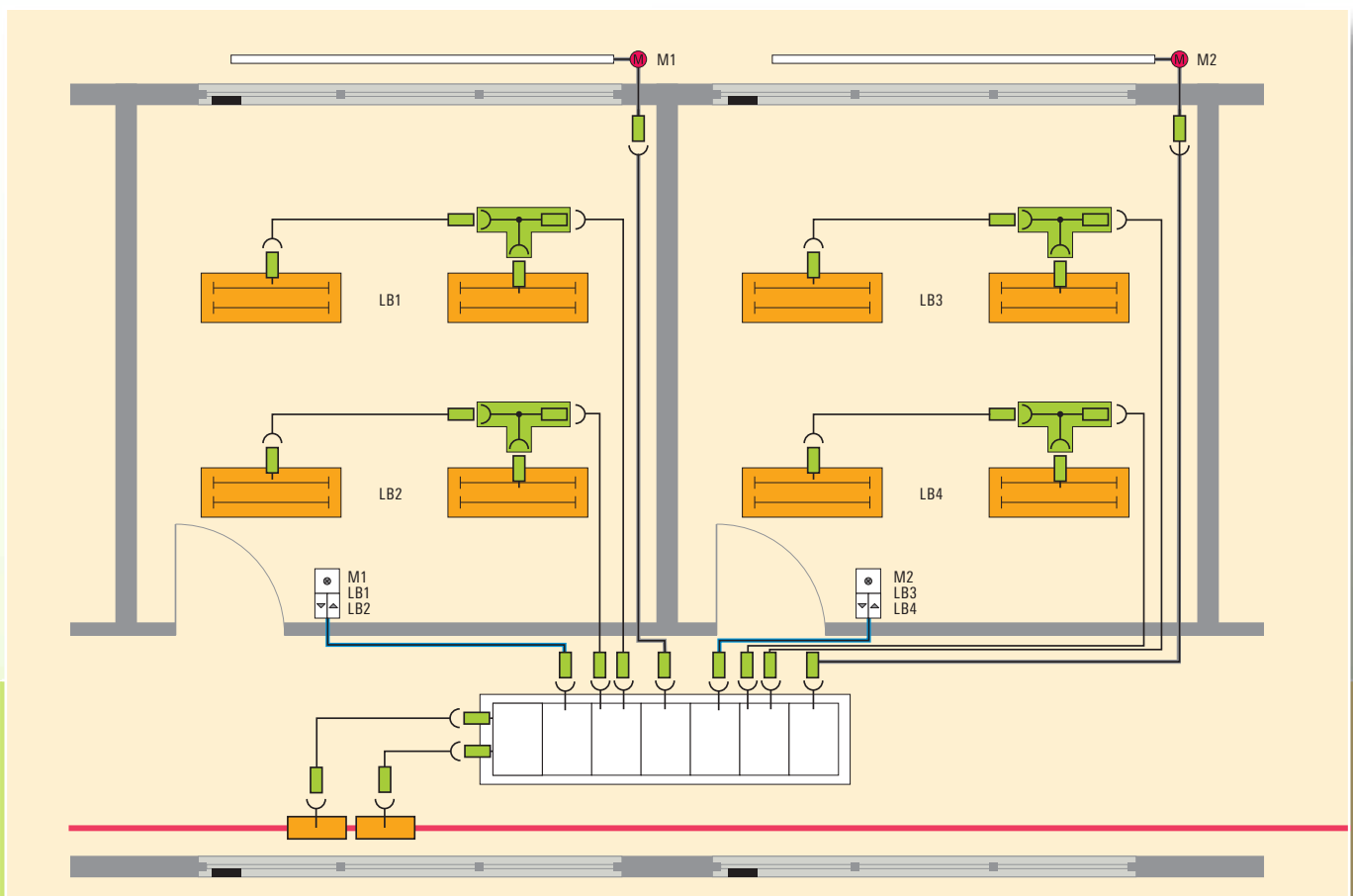
The modular **gesis** EIBM2 device system is used. The switches are connected to **gesis** EIBM2 with a binary input. As six extension modules can be connected to the base module and since only three modules are used for each office, two offices can be managed with one base module.

Automation devices used


1 x base module	gesis EIBM2-BAS
2 x binary input 24V	gesis EIBM2-4/0 (24)
2 x power switch	gesis EIBM2-0/2
2 x sunblind output	gesis EIBM2-0/1Wx2

Connection components used


- Flat cable 7-pole with adapters, or round cable
- Main power supply 5-pole plus bus 2-pole with distribution blocks at the device inputs
- Extension cable for connecting the lighting
- Extension cable for connecting the sunblinds
- Connection cable for connecting the push-buttons




Base module of the device series

 <p>The gesis EIB M2 base module manages up to six extension modules from the gesis EIB M2 module series. The extension modules are automatically supplied with the internal bus and the power supply voltage when daisy-chained. Regardless of the number of extension modules, the module counts as one physical address.</p>	<table border="1"> <thead> <tr> <th>Type</th> <th>Part No.</th> </tr> </thead> <tbody> <tr> <td>gesis EIB M2-BAS</td> <td>83.020.1020.0</td> </tr> </tbody> </table>	Type	Part No.	gesis EIB M2-BAS	83.020.1020.0
	Type	Part No.			
gesis EIB M2-BAS	83.020.1020.0				
<p>Infeed: Main power supply</p> <p>Bus: KNX</p> <p>Output: internal bus for max. 6 extension modules 230/400V main supply connection for the extension modules</p>	<p>230/400V~, 50..60 Hz, max. 16A</p>				


Extension module 4-fold input 230V AC

 <p>The 230V binary input can manage four independent potential-free contacts. The scanning voltage of 230V AC is provided by the module.</p>	<table border="1"> <thead> <tr> <th>Type</th> <th>Part No.</th> </tr> </thead> <tbody> <tr> <td>gesis EIB M2-4/0</td> <td>83.020.1021.0</td> </tr> </tbody> </table>	Type	Part No.	gesis EIB M2-4/0	83.020.1021.0
	Type	Part No.			
gesis EIB M2-4/0	83.020.1021.0				
<p>Infeed: via an upstream base or extension module</p> <p>Input data: Quantity: 4 Rated voltage: 230V AC, coming from the module Cable length: max. 100m</p> <p>Accessories: Base module: 83.020.1020.0</p>					

Extension module 4-fold input 24V DC

 <p>The 24V DC binary input can manage four independent potential-free contacts. The scanning voltage of 24V DC SELV is provided by the module.</p>	<table border="1"> <thead> <tr> <th>Type</th> <th>Part No.</th> </tr> </thead> <tbody> <tr> <td>gesis EIB M2-4/0 (24)</td> <td>83.020.1022.0</td> </tr> </tbody> </table>	Type	Part No.	gesis EIB M2-4/0 (24)	83.020.1022.0
	Type	Part No.			
gesis EIB M2-4/0 (24)	83.020.1022.0				
<p>Infeed: via an upstream base or extension module</p> <p>Input data: Quantity: 4 Rated voltage: 24V DC, coming from the module Cable length: max. 100m</p> <p>Accessories: Base module: 83.020.1020.0</p>					

Extension module 2-fold power switch

 <p>The 2-fold switching output for high loads has two independently controllable relays. For these relays together the phase conductor used can be defined through a jumper.</p>	<table border="1"> <thead> <tr> <th>Type</th> <th>Part No.</th> </tr> </thead> <tbody> <tr> <td>gesis EIB M2-0/2</td> <td>83.020.1023.0</td> </tr> </tbody> </table>	Type	Part No.	gesis EIB M2-0/2	83.020.1023.0
	Type	Part No.			
gesis EIB M2-0/2	83.020.1023.0				
<p>Infeed: via an upstream base or extension module</p> <p>Input data: Quantity: 2 Rated voltage: 230V AC Switching current: max. 16A ohmic load, high switching capacity</p> <p>Accessories: Base module: 83.020.1020.0</p>					

Extension module 1 x 2-fold sunblind output



The sunblind output 1 x 2-fold for 230V DC motors with two directions of rotation has two uncoupled outputs that are controlled in parallel. The phase conductor used can be defined using a jumper.

Type	Part No.
gesis EIB M2-0/1Wx2	83.020.1024.0
Infeed:	via an upstream base or extension module
Output data:	
Quantity	2 parallel uncoupled
Rated voltage	230V AC
Switching current	8A ohmic load
Accessories:	
Base module	83.020.1020.0

Extension module switching/dimming output



The switching/dimming output has a switching and a control output for dynamic EBs with a 1 – 10V interface. The phase conductor used can be defined using a jumper.

Type	Part No.
gesis EIB M2-0/SD	83.020.1026.0
Infeed:	via an upstream base or extension module
Output data:	
Quantity	1
Main power supply	230V AC; 16A ohmic load
Switching output	1 – 10V (passive); max. 50 mA
Accessories:	
Base module	83.020.1020.0





European headquarters of Eurotours in Austria / Kitzbühl

This building serves as the European company headquarters of Eurotours. The **gesis** system was used, as it ensures the flexibility required for the use of the buildings as well as quick and safe installation. **gesis** EIBV actuators control lighting and sunblinds. They are supplied by a halogen-free flat cable and were placed in the double floor.

The following devices are used:

- **gesis** EIBV switching outputs for lighting control
- **gesis** EIBV sunblind outputs for sunblind control
- Halogen-free flat cable 5+2-pole taking over the power and KNX supply.



gesis[®] EIBV

Modular devices for convenient integration of EnOcean sensors

■ General

The **gesis** EIBV device series can be used without additional housing and features an extremely low profile. The device is decentralized and installed near the load. Devices with the same number of inputs/ outputs differ regarding the input for main power supply. Two different versions are available: a three-phase infeed with a 5-pole connector, and a 3-pole single-phase infeed. Potential distribution of ground, N and the switched phase conductor is performed inside the modules.

■ Convenient integration of EnOcean sensors

In many systems, cabling to the sensors, e.g. push-buttons or window contacts, is not desirable or simply too complicated or not possible. EnOcean technology with its maintenance-free, batteryless sensors offers an ideal solution.



The **gesis** EIBV EnOcean gateway offers the opportunity to bring EnOcean telegrams into the world of KNX. First, the gateway is parameterized with the KNX software (ETS). The sensors are assigned without software. The gateway is switched to learning mode and the desired sensor is operated. It is equally simple to delete previous assignments.

■ Installation space becomes more and more limited

Concrete core cooling, air-handling ceilings, cost-saving measures and other requirements are making the installation space in the systems increasingly smaller. With **gesis** EIBV devices, you can manage almost everywhere. Due to their installation height of only 32 mm, the devices fit under cable routes, for example. They can also be inserted into a raised floor through most bottom tanks and can then be conveniently connected thanks to their pluggable connections.

Benefits of the **gesis**[®] EIBV device series

- **Decentralized installation without additional housing**
- **Flat, space-saving design**
- **Quick and error-free installation with pluggable connections**
- **Optimized devices for use in buildings with standard office axes**
- **Interoperability with certified KNX devices**

Common data of the *gesis* EIB M2 device series

Dimensions	
(length/width/height in mm)	255/112/32 (71 incl. combined distribution block)
Degree of protection	IP 20
Housing	halogen-free
Housing color	light gray similar to RAL7035
Installation type	surface mount with screw fastening
Electrical connections	only pluggable
Connectors and cables	see the product range of the pluggable electrical installation system gesis CON
Certification	KNX-certified
Software	Product database for ETS at www.wieland-electric.com

Range of the EnOcean gateway

The EnOcean gateway indicates with LEDs whether an EnOcean telegramme has been received and helps to determine whether the required senders reach the gateway. If one of the two gateways with external antenna are used, it can be installed in a place with better radio reception, if required. Please observe the information in the chapter on **gesis RC** for range planning.

		83.020.0212.0	83.020.0212.4	83.020.0213.0	83.020.0213.4	83.020.0214.0	83.020.0220.0	83.020.0220.1	83.020.0220.2	83.020.0220.3	83.020.0221.0	83.020.0221.4	83.020.0222.4	83.020.0225.0	83.020.0225.4
Functions	Switching output	1	1			6	4	4	4	4				4	4
	Sunblind output	2	2								2	2	2		
	Internal fuse 5 AT														
	Switching/dimming output			2	2										
	Radio input						56	56	56	56					
Connector/connection*)	Main supply input	Three-phase, 5-pole (GST 18i5 black)													
		Single-phase, 3-pole (GST 18i3 black)													
	KNX input	2-pole BST green													
		2-pole BST green spaced													
	Output	3-pole GST 18i3 black													
		4-pole GST 18i4 black													
		5-pole GST 18i5 black													
		5-pole GST 18i5 pastel blue													
Antenna connection		SMA socket													

*) See the product range of the pluggable electrical installation system **gesis CON**



Room installation

Requirements for each office

Implementation

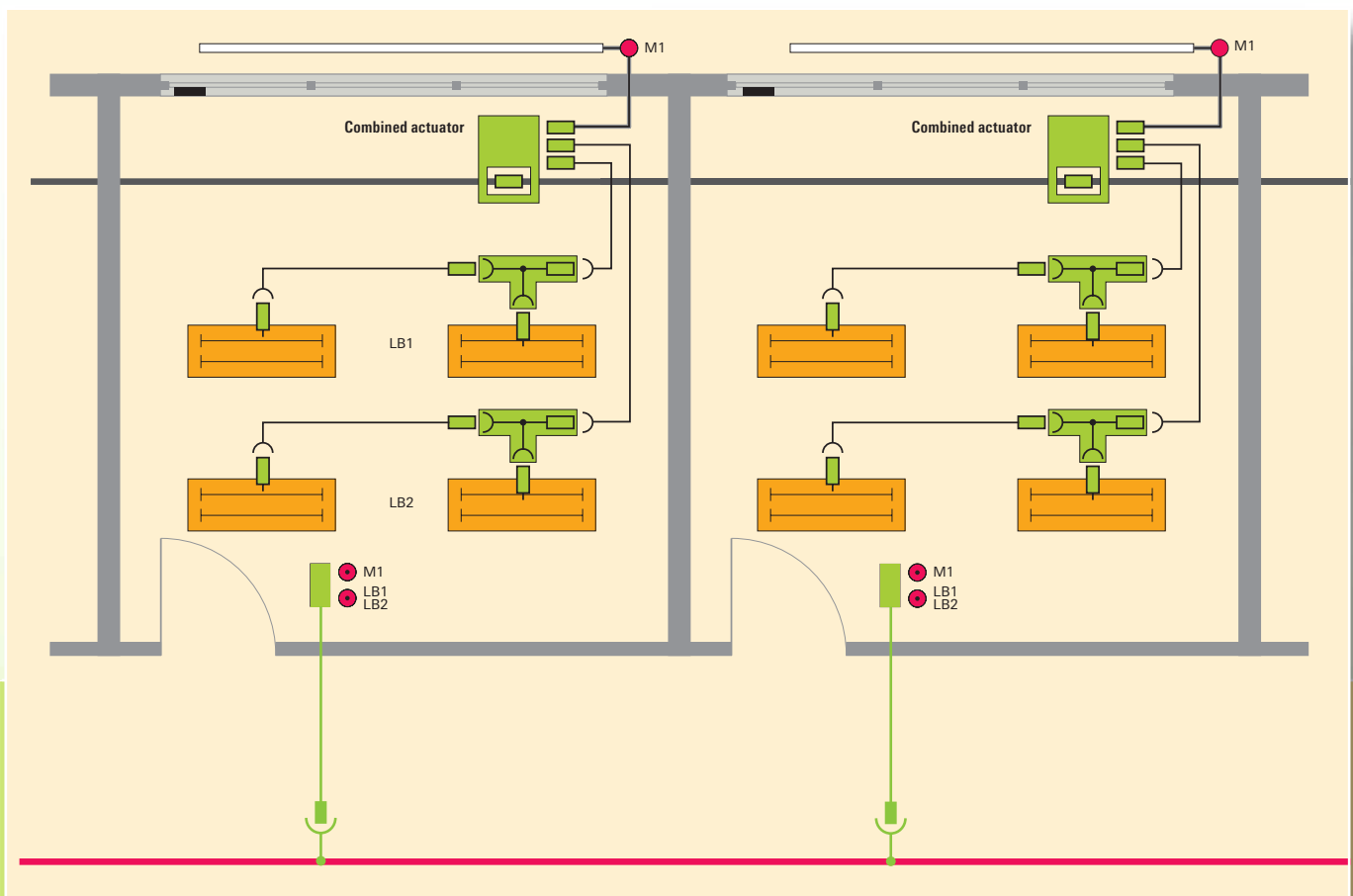
The office systems are installed throughout using a 7-pole flat cable (main power supply and bus) for the window side and a 2-pole flat cable on the door side. The combined actuator is adapted directly on the 5+2-pole flat cable and the push-button interfaces are connected to the 2-pole flat cable using a connection cable.

Alternatively, preassembled round cables and distribution blocks can be used for main power and bus supply.

Connection components used

Automation devices used

- 2 x combined actuators gesis EIB V-0/2+1W
- 2 x KNX push-button interfaces, 4-fold gesis KNX TA 4/4



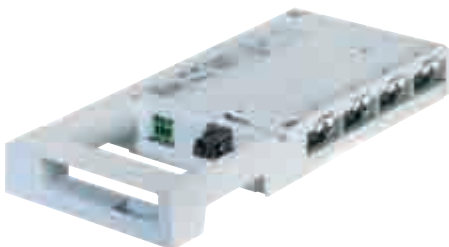
2-fold sunblind output for complex sunblind controls



The KNX sunblind output for surface-mount switches two independent sunblind motors. The outputs can be positioned directly. All electrical connections are pluggable.

Type	Part No.
gesis EIB V-0/2W B Three-phase main supply connection	83.020.0221.0 (output A1 → L1; A2 → L2)
gesis EIB V-0/2W B SP Single-phase main supply connection	83.020.0221.4 (3-pole)
gesis EIB V-0/2W F SP Single-phase main supply connection Internal fuse 5 AT	83.020.0222.4 (3-pole) 5 AT for both outputs together
Infeed: Supply/KNX	230/400V~, 50..60Hz, max. 16A; KNX
Outputs: Rated voltage Switching current	230 V AC max. 16A ohmic load

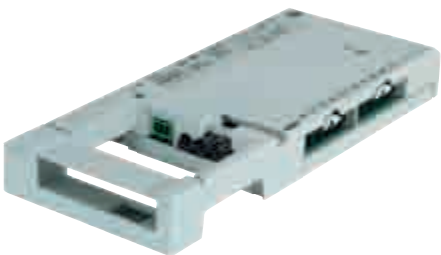
4-fold switching output with increased functionality



The 4-fold KNX switching output for surface mount has four independent switched outputs. All electrical connections are pluggable.

Type	Part No.
gesis EIB V-0/4 B Three-phase main supply connection	83.020.0225.0
gesis EIB V-0/4 B SP Single-phase main supply connection	83.020.0225.4 (3-pole)
Infeed: Supply/KNX	230/400V~, 50..60Hz, max. 16A; KNX
Outputs: Rated voltage Switching current	230 V AC max. 16A ohmic load

6-fold switching output



The 6-fold KNX switching output for surface-mount has six independent switchable outputs. Three outputs each are combined in a 5-pole connector. All electrical connections are pluggable.

Type	Part No.
gesis EIB V-0/6 Three-phase main supply connection	83.020.0214.0 (output A1/A4 → L1; A2/A5 → L2; A3/A6 → L3)
Infeed: Supply/KNX	400V~, 50..60Hz, max. 16A per phase conductor; KNX
Outputs: Connection Rated voltage Switching current	combined with three outputs in a 5 pole connector (e.g. A1, A2, A3, N, ground) 230 V AC max. 16A ohmic load

Combined actuator with 2-fold switching and 1-fold sunblind output



The combined KNX output for surface mount has two switching outputs and one sunblind output. All electrical connections are pluggable.

Type	Part No.
gesis EIB V-0/2+1W Three-phase main supply connection	83.020.0212.0 (output A1 → L1; A2 → L2; A3 → L3)
gesis EIB V-0/2+1W SP Single-phase main supply connection	83.020.0212.4 (3-pole)
Infeed: Supply/KNX	230/400V~, 50..60Hz, max. 16A; KNX
Outputs: Rated voltage	230 V AC
Switching current-switching output A1, A2	max. 16A ohmic load
Switching current-sunblind output A3	max. 8A ohmic load

2-fold switching/dimming output



The KNX switching/dimming output for surface mount has two independent outputs for controlling dynamic electronic ballasts for lighting control. All electrical connections are pluggable.

Type	Part No.
gesis EIB V-0/2SD Three-phase main supply connection	83.020.0213.0 (output A1 → L1; A2 → L2)
gesis EIB V-0/2SD SP Single-phase main supply connection	83.020.0213.4 (3-pole)
Infeed: Supply/KNX	230/400V~, 50..60Hz, max. 16A; KNX
Outputs: Rated voltage	230 V AC
Switching current	max. 16A ohmic load
Control output	1 – 10 V / max. 50mA (passive)

EnOcean-KNX 56-fold gateway with 4 switching outputs



The gateway of the EnOcean radio technology to KNX manages 170 EnOcean telegrams and transfers them to 56 KNX objects. Independently from this, four switching outputs are available. All electrical connections are pluggable.

Type	Part No.
gesis EIB V-56/4 RC Three-phase main supply connection	83.020.0220.0 (output A1 → L1; A2 → L2; A3/A4 → L3)
gesis EIB V-56/4 RCSP Single-phase main supply connection	83.020.0220.1 (3-pole)
gesis EIB V-56/4 B RC 3-phase main supply/antenna connection	83.020.0220.2 (output A1 → L1; A2 → L2; A3/A4 → L3)
gesis EIB V-56/4 B RCSP Single-phase main supply/antenna connection	83.020.0220.3 (3-pole)
Infeed: Supply/KNX	230/400V~, 50..60Hz, max. 16A; KNX
Outputs: Rated voltage	230 V AC
Switching current	max. 16A ohmic load

Antenna for EnOcean devices with external antenna



The 868.6 MHz antenna is suitable for connection to Wieland **gesis** devices with a SMA socket. The black antenna can be fastened with a magnetic foot and has a 2.5m connection cable.

Type	Part No.
Antenna	83.020.0503.0
Antenna	– 868.3MHz antenna
	– fastened with magnetic foot
	– incl. approx. 2.5m connection cable and SMA plug



Renovation of an office building Sonnenstraße 14 in Munich

This building was equipped with a decentralized, pluggable electrical installation by Wieland. *gesis* LONRM, integrated into a *gesis* RAN, was used. The distribution unit variants were reduced to a minimum.

The following devices are used:

- *gesis* LONRM base module for managing the extension modules
- *gesis* RM sunblind modules
- *gesis* RM switching outputs
- *gesis* RAN as a decentralized distribution unit
- Infrastructure for lighting, sun protection, air conditioning, LON



gesis[®] LON

Modules suitable for any bus system

The **gesis** LON module series enables highly flexible, high-performance and error-free decentralized installations with clearly reduced consumption of switching, sensor and end device cabling.

A maximum of four extension modules can be connected to a base module. The base module and extension module communicate through a flat cable and form one LON node. As the module series controls lighting, sunblinds, heating/ventilation/air conditioning devices and provides both radio technology and binary inputs, various requirements can be fulfilled with coherent concepts.

gesis LON is suitable for any bus system. It is possible to select a base module which enables connection to either KNX or LON. This feature provides the highest possible degree of flexibility in planning: the distribution unit's function can be determined at an early stage, while the decision about the bus system does not have to be made until later.

The connector type and quantity can be determined as required thanks to the use of remotely installable distribution boxes, the so-called **gesis** RAN. Any configurations which may become necessary for the electrical installation system can be integrated quickly and easily, made possible by the convenient knockouts.

■ Optimal commissioning

Easy assembly and pluggability of all electrical connections allow for fast installation without the need for tools. The entire module can be programmed and tested in the room in advance. This creates clear interfaces between system integration and installation and saves a lot of time and cost at the site.



Benefits of the **gesis**[®] LON device series

- **Modular device arrangement**
– one address for various functions
- **Low installation height of <55 mm**
- **Optimized for decentralized room automation**
- **Pluggability with **gesis**[®] CON** – simple, error-free installation
- **Installation in **gesis**[®] RAN to any specification** – suitable for any requirement

Common data of the *gesis* LON device series

Dimensions (length/width/height in mm)

Width in the direction of the DIN rail (MW)	49mm (2.7 MW)
Height	100 mm
Depth incl. mounting rail TH 35x7.5	52 mm
Degree of protection	IP00

Due to degree of protection IP00 the devices must be installed inside a **gesis** distribution box or a similar housing.

Housing halogen-free

Housing color black

Installation type on TH 35 mounting rail

Software In the **gesis** RM system the extension modules are used exclusively in the base module. Information on module combinations not yet available in the plug-in can be requested from the gesis hotline.

The EnOcean-LON gateway has its own plug-in.

LNS plug-in as well as all other necessary data available at

www.wieland-electric.com

	gesis LON R EnOcean-LON gateway 83.020.0320.0	LON Base module 83.020.0300.3	Power supply unit 1-fold 83.020.0401.0	Power supply unit 2-fold 83.020.0421.0	Binary input 8-fold 83.020.0402.0	Radio input 16-fold 83.020.0408.0	Switching output, 4-fold 83.020.0403.0	Sunblind output 2-fold 230V 83.020.0404.0	Sunblind output 2-fold 24V DC 83.020.0407.0	Switching/dimming output, 2-fold 83.020.0405.0	Universal dimmer 2-fold 83.020.0409.0	DALI output 2-fold 83.020.0410.0	Semiconductor output 4-fold wide range 83.020.0406.0	Semiconductor output AC 83.020.0411.0	Semiconductor output DC 83.020.0412.0
Functions	Management of x extension modules (slots on the base module)	4													
	Supply for x base modules		1	2											
	x slots occupied				1	2	1	1	1	1	1	1	1	1	1
	Binary inputs				8										
	Radio inputs	170				2 x 8									
	Switching outputs, 16 A (relay)						4								
	Sunblind outputs 230 V 5 A							2							
	Sunblind outputs 24 V DC 5 A								2						
	Switching/dimming output 230 V / 1 – 10 V									2					
	Universal dimmer 2 x 250 V A RLC load										2				
	DALI output broadcast 2 x 8 EBs											2			
	Semiconductor output 24 – 230 V AC/DC 0.5 A												4		
	Semiconductor output 230 V AC 0.5 A													4	
Semiconductor output 24 VDC 0.5 A														4	
Voltage/supply	Auxiliary voltage / supply 230 V														
	Auxiliary voltage 12 V RM power supply														
Screw terminals	0.14 – 1.5 mm ² solid (inputs)														
	0.14 – 1.0 mm ² solid (inputs)														
	0.14 – 4.0 mm ² solid														
	0.14 – 2.5 mm ² fine stranded														
Antenna connection	SMA socket														



Renovation of offices with glass partitions – batteryless radio technology – integration into building automation

Offices with glass partitions – batteryless radio technology

Requirements per office axis

- Two switched light circuits
- One sunblind
- Window position sensing
- Cabling to the switches and window contacts not possible

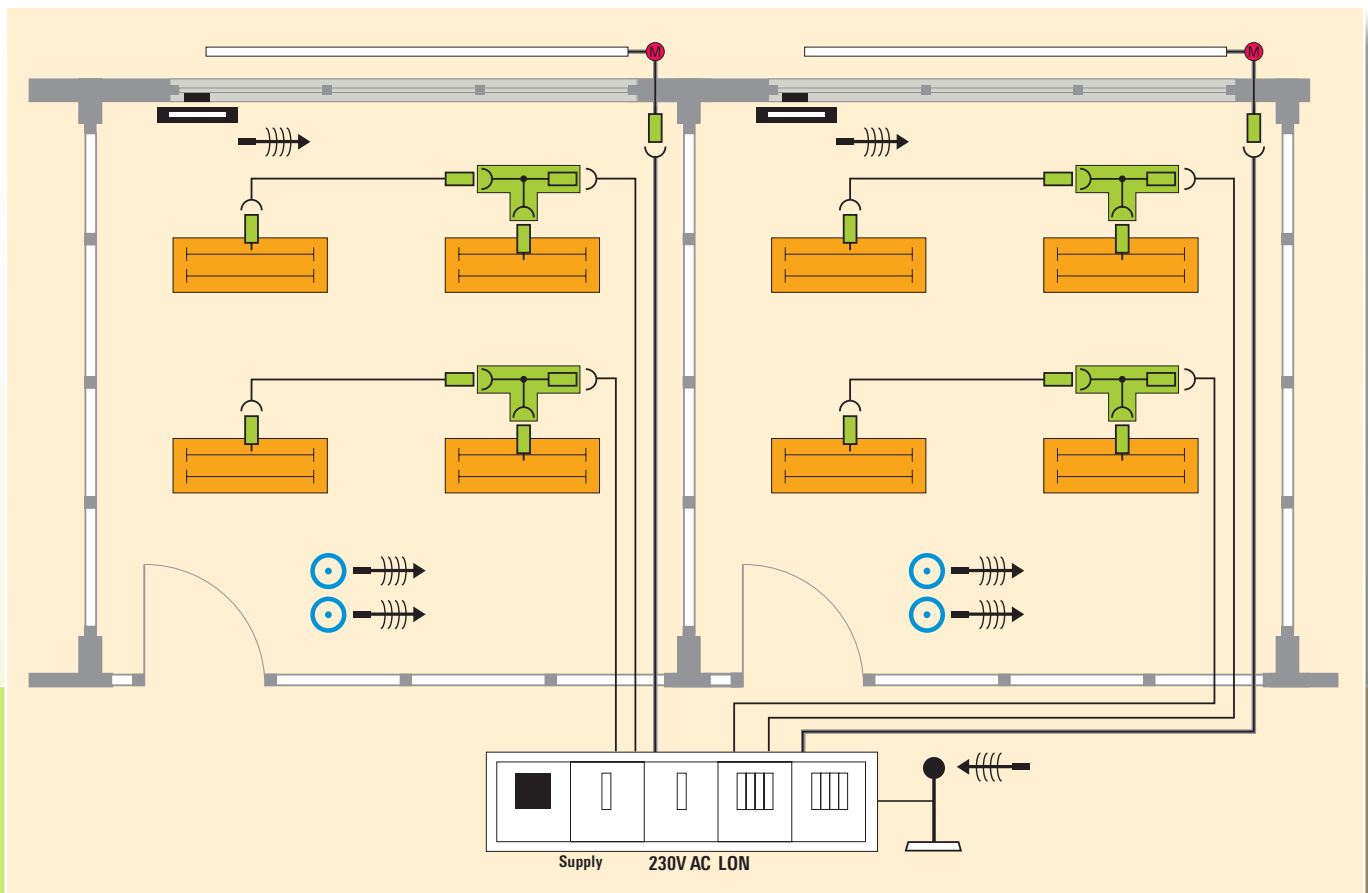
Implementation

The batteryless EnOcean radio technology is used for switches and window contacts. The switching commands and messages are integrated into the LON network using the EnOcean-LON gateway. In this case the gateway can manage more than two offices.

For this purpose a **gesis** RAN is equipped with the following modules:

1 x LON base module	gesis LON RM2-BAS
1 x power supply unit	gesis RM-PS
1 x switching output 4-fold	gesis RM-0/4
1 x sunblind output 2-fold	gesis RM-0/2W SI
1 x EnOcean – LON gateway	gesis LON R-56/0 (RC)
1 x antenna for radio input	gesis RC Z ANT SMA
Switches from the Window contact from the	gesis RC program
	gesis RC program

Installation of the modules inside a customized **gesis** RAN.



LON RM base module



The LON RM base module manages up to four extension modules. The extension modules of the **gesis** RM device series are connected with a flat cable to the base module; the flat cable is supplied with the extension modules. Regardless of the number of extension modules, the module counts as one physical address.

Type	Part No.
gesis LON RM2-BAS	83.020.0300.3
Infeed:	
Supply	12V DC from gesis RM-PS
Bus	LON (FTT 10A transceiver)
Outputs:	
Extension modules	four slots for flat cables to the extension modules
Accessories:	gesis RM-PS
Power supply units and extension modules are available in the section gesis RM	

Extension modules for the LON RM base module



Use of the same extension modules as with the KNX base module. See pages 40–43 for these modules.

Type	Part No.
Binary input 8-fold	p.41 83.020.0402.0
Radio input EnOcean 2 x 8-fold	p.41 83.020.0408.0
Binary input 4-fold	p.41 83.020.0403.0
Sunblind output 2-fold 230V AC	p.42 83.020.0404.0
Sunblind output 2-fold 24V DC	p.42 83.020.0407.0
Switching/dimming output, 2-fold	p.42 83.020.0405.0
Universal dimmer 2-fold	p.42 83.020.0409.0
DALI actuator 2 x 8-fold	p.43 83.020.0410.0
Semiconductor output 4-fold universal	p.43 83.020.0406.0
Semiconductor output 4-fold AC	p.43 83.020.0411.0
Semiconductor output 4-fold DC	p.43 83.020.0412.0

EnOcean-LON gateway



The EnOcean-LON gateway can convert 170 EnOcean radio channels into 56 LON network variables. For this purpose LON is integrated first. Then the EnOcean senders are programmed to the relevant channels. This programming operation is performed directly on the gateway and does not require any software knowledge. Modifications or extensions on the radio side are performed without LON integration.

Type	Part No.
gesis LON R-56/0 (RC)	83.020.0320.0
Infeed:	
Supply	12V DC e.g. from gesis RM PS; approx. 60mA
Bus	LON (FTT 10A transceiver)
Extension module	
Outputs:	
Quantity	56 LON network variables (NVs), types configurable
Inputs:	max. 170 links to EnOcean sensors possible assignment programmable without LON tool

Antenna for EnOcean devices with external antenna



The 868.6 MHz antenna is suitable for connection to Wieland **gesis** devices with a SMA socket. The black antenna can be fastened with a magnetic foot and has a 2.5m connection cable.

Type	Part No.
Antenna	83.020.0503.0
Antenna	
– 868.3MHz antenna	
– fastened with magnetic foot	
– incl. approx. 2.5m connection cable and SMA plug	

Power supply unit for one base module or LON gateway



One base module can be connected to the power supply unit. The power supply unit supplies the base module and, through it, the connected extension modules, too.

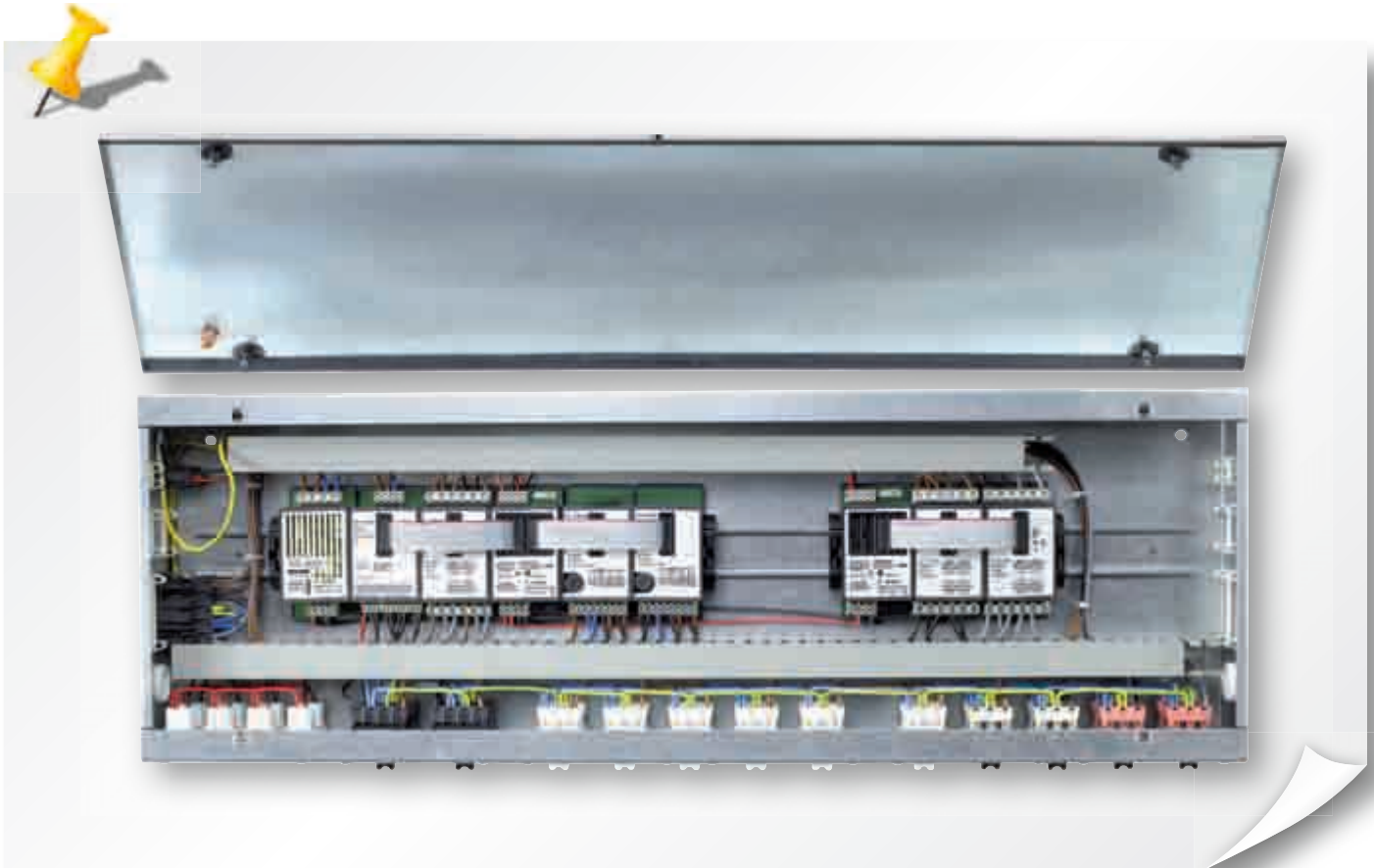
Type	Part No.
gesis RM-PS	83.020.0401.0
Infeed: Supply	230V AC
Output:	12.5V DC SELV / 160mA for one base module

Power supply unit for 2 base modules or LON gateway



Two base modules can be connected to the power supply unit. The base module and, through it, also the extension modules are supplied with energy.

Type	Part No.
gesis RM-PS 12/5	83.020.0421.0
Infeed: Supply	230V AC
Output:	12.5V DC SELV / 400mA for two base modules





"An den Brücken" in Munich

This building was awarded the platinum award, the highest LEED certification, and uses radio technology together with KNX for sunblind and lighting control.

The following devices are used:

- EnOcean push-buttons
- **gesis** EIB V
Gateway EnOcean -
KNX sunblind control
- **gesis** EIB RM
DALI lighting control -
sunblind control
- **gesis** CON
structured and pluggable cabling of lighting and sunblind drives



gesis[®] RC

Radio module devices for stand-alone systems

The **gesis** RC device series (RC stands for radio-controlled) uses the EnOcean radio technology as the transfer protocol. The most outstanding feature of this technology is the use of batteryless sensors (push-buttons). These generate the power required to send a radio telegram from a electromagnetic generator. They require absolutely no maintenance.

gesis RC as a stand-alone system

Some devices can be operated without any building automation system. In this application, the assignments of push-buttons and outputs is made without software – simply by pushing a button at the switching application and by actuating the desired switch for operating the lighting or sunblind group.

gesis enables highly flexible installations that can be easily planned, as the switches and push-buttons can be mounted anywhere and do not require any cables.

gesis RC for automation

With a gateway to KNX, one to LON and a radio input for the **gesis** EIBRM device series, many sensors can be conveniently integrated into the world of building automation.

gesis RC for outdoors

The water-proof (IP68) RST distribution unit with EnOcean integration even makes it suitable for use outdoors.



Benefits of radio technology

- **Cable-less sensors**
simple planning, simple installation
- **Sensors without batteries**
no maintenance required
- **Stand-alone system**
programming without software
- **Integration into automation**
gateway for KNX and LON
- **Decentralized installation**
can be installed on-site
- **Pluggable connections**
smart installation with **gesis**[®] CON

Data/radio technology

Technology

Use of the EnOcean protocol

Radio frequency

868.3 MHz

Range

- Line-of-sight Typically 30 m in aisles, up to 100 m in halls
- Plaster board/wooden walls Typically 30 m through a maximum of 5 walls
- Brick/gas-aerated concrete walls Typically 20 m through a maximum of 3 walls
- Reinforced concrete walls/ceilings Typically 10 m through a maximum of 1 ceiling/wall
- Considerable limitations in the range (up to the shielding of the radio signal).

All electrically conductive materials (mostly metals) between the transmitter and the receiver or near by impair the range.

Examples:

Insulating material on metal film; suspended ceilings as well as raised floors or panels made of metal or carbon fibers; lead glass or metal-plated glass; steel furniture; sensors mounted on metal, etc. Fire protection walls, stairwells, supply and elevator shafts or similar areas should be regarded as shields. Furthermore, the angle at which the radio signals hit the wall plays a major role. Depending on the angle the effective wall thickness, and thus the signal damping, changes. The signals should not hit the wall at a narrow angle, if possible. Wall niches should be avoided.

		Switching output, 4-fold 83.020.0500.0	Switching output, 4-fold 83.020.0500.2	Sunblind output, 2-fold 83.020.0501.1	Sunblind output, 2-fold 83.020.0501.2	Switching output, 1-fold IP68 83.020.0504.0	Switching output, 4-fold IP68 83.020.0505.0	Switching output, 1-fold pluggable F0.000.0016.9	Dimming output 1-fold pluggable F0.000.0017.0	Switching output, 1-fold UP 83.020.0506.0	Alarm sender, 2 x 8-fold 83.020.0502.0	Window contact F0.000.0009.0	Gateway to KNX 83.020.0220.x	Gateway to LON 83.020.0320.x	Binary input RM (KNX / LON) 83.020.0408.0	Handheld transmitter	Convenient handheld transmitter F0.000.0024.4	Radio switch, multivendor	Radio switch	Hotel Card switch	Repeater F0.000.0024.5	Antenna 83.020.0503.0
Functions	Switching output	4	4			1	4	1		1			4									
	Sunblind output			2	2																	
	Dimming output (R, C load)								1													
	Binary input										8				2x8							
	Radio input												56	56								
	Alarm input										8											
	Window position												1									
	Pushbuttons (number of buttons /function)																1	4	2/4	2/4	1	
	Gateway to													KNX	LON							
	Reception display / field intensity																					
Properties	Pluggable connections with gesis CON					RST	RST															
	Screw terminals																					
	External antenna																					
	Surface mounting																					
	Box mounting																					
	DIN rail mounting																					
	Frames from the Wieland product range																				incl.	
Frames from various suppliers																						



Room installation with central commands

Requirements for each office

- two switched lighting circuits
- one sunblind
- no cabling to the sensors available

Note

If the lighting system or sunblinds are to be operated in other locations, additional switches are simply programmed for the corresponding outputs.

Realization

The switching outputs for lighting and sunblinds control two office axes each.

1 x switching output, 4-fold	gesis RC V-0/4 1PH
1 x sunblind output, 2-fold	gesis RC V-0/2 W 1PH
2 x pushbuttons 2 channels	multivendor up/down
2 x pushbuttons 4 channels	multivendor I/O

Extension of room installation

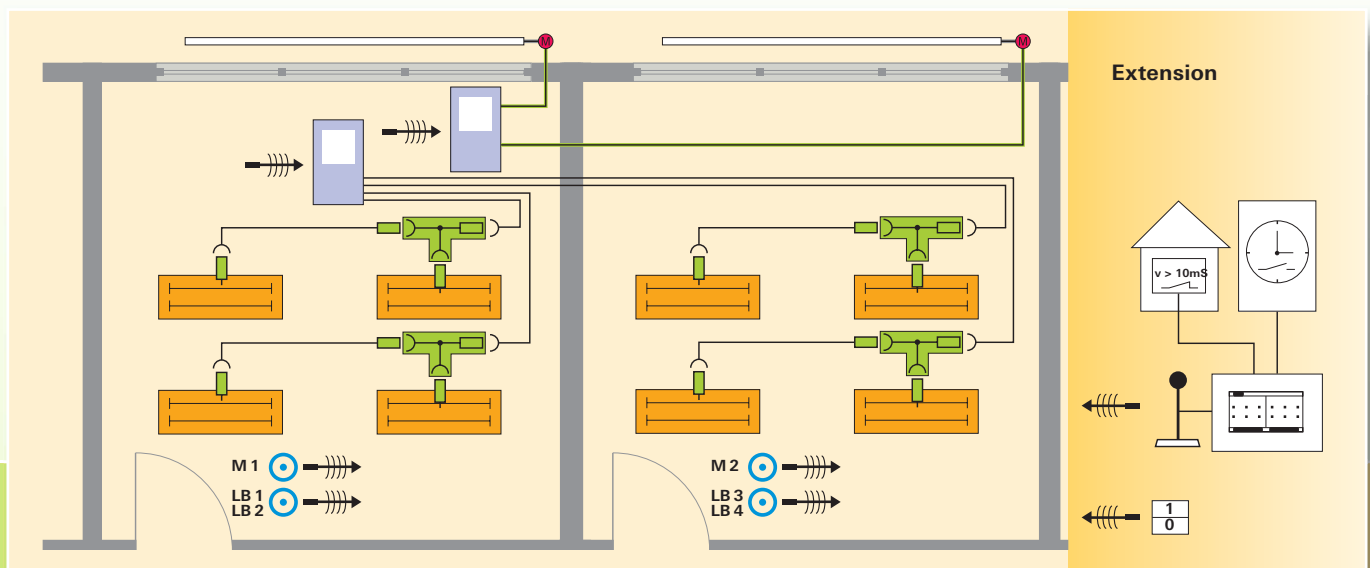
Requirements

In addition to the existing operating options the sunblinds are to travel into a wind-safe position using a central weather station. The sunblinds are closed over the weekends using a seasonal time switch in order to prevent excessive warming of the building during the summer. The lighting shall be switched off via a central switch.

Realization

An additional radio alarm transmitter is installed in a central location. Potential-free contacts from the weather station and the time switch are connected to this alarm transmitter. The channels that are to react to the control commands are programmed with the corresponding channels of the radio alarm sender. With a 2-channel switch the lighting can be switched centrally.

1 x radio alarm sender 4-fold in	gesis RAN
	gesis RC R-16/0
1 x antenna for alarm sender	gesis RC Z ANT SMA
1 x push-button, 2 channels	multivendor I/O



Note

As the radio signals' range is limited, it must be ensured that all outputs are within the range of the alarm transmitter. If this is not possible, in the case of central commands over several floors, for example, several alarm senders can be connected in parallel.

Switching output, 4-fold



Output module with four relay outputs for switching four independent load groups with sensors that use EnOcean radio technology.

Type		Part No.
gesis RCV-0/4 1PH	1-phase main supply	83.020.0500.0
gesis RCV-0/4 B 1PH	1-phase main supply/antenna connection	83.020.0500.2
Infeed:		
Main power supply	230 V AC	
Rated voltage	230 V AC (N, ground, switched phase conductor)	
Switching current	16 A ohmic load	
General data:		
Installation	surface mounting, fixing with screws	
Degree of protection	IP20	
Dimensions (length/width/height)	254/112/32 mm	
Connection and supply components are available in the gesis CON section.		

Sunblind output, 2-fold



Output module with two sunblind outputs for switching two independent sunblind motors with sensors that use EnOcean radio technology. In addition, each output has an alarm function.

Type		Part No.
gesis RCV-0/2WAL 1PH	1-phase main supply	83.020.0501.1
gesis RCV-0/2WALB 1PH	1-phase main supply/antenna connection	83.020.0501.2
Infeed:		
Main power supply	230 V AC	
Rated voltage	230 V AC, (N, ground, up, down)	
Switching current	5 A ohmic load	
General data:		
Installation	surface mounting, fixing with screws	
Degree of protection	IP20	
Dimensions (length/width/height)	254/112/32 mm	
Connection and supply components are available in the gesis CON section.		

Switching outputs for outdoors




EnOcean switching outputs in the IP68 surface housings for outdoor use feature four or one 230 V relay. They can be programmed for 30 push-button pairs. All electrical connections are pluggable. Voltage and power supplies for LED and low-voltage halogen luminaires are available as accessories.




The EnOcean power supply units in the IP68 surface housings for outdoor use are designed for connecting low-voltage halogen or LED luminaires. All electrical connections are pluggable.

Type		Part No.
gesis RCRST-0/1	1 relay output, 1 feed-through wiring	83.020.0504.0
gesis RCRST-0/1x2	2 relay outputs connected in parallel	83.020.0504.1
gesis RCRST-0/4	4 relay outputs, 1 feed-through wiring	83.020.0505.0
Infeed:		
Power input/output	230 V AC / 20 A connector RST coding black	
Outputs:		
Quantity	1/4	
Connection type	connector RST coding black	
Rated voltage	230 V AC	
Switching capacity gesis RCRST-0/1...	5 A total ohmic load	
Switching capacity gesis RCRST-0/4	6 A (max. two of the LED/LV halogen modules given below)	
General data:		
Degree of protection	IP68 (all connections plugged or closed)	
Dimensions (length/width/height)		
gesis RCRST-0/1...	104/162/57 mm	
gesis RCRST-0/4	104/162/96 mm	
Mounting option	4 elongated holes	
Voltage supplies:		
gesis RSTPSU 12/12 LED	1 LED control unit 12V/12W, 1 feed-through wiring	83.020.0900.0
gesis RSTPSU 24/12 LED	1 LED control unit 24V/12W, 1 feed-through wiring	83.020.0901.0
gesis RSTPSU 12/70 LVH	1 LV halogen control 12V/70W, 1 feed-through wiring	83.020.0904.0
Power supply units:		
gesis RSTPSI 350/12 LED	1 LED control unit 350 mA/12W, 1 feed-through wiring	83.020.0902.0
gesis RSTPSI 700/12 LED	1 LED control unit 700 mA/12W, 1 feed-through wiring	83.020.0903.0


Switching and dimming output with GST 18 18i3 connection

 <p>The EnOcean switching/dimming output can be integrated as an intermediate plug into the supply lines of luminaires, for example. This makes these devices so suitable for extensions. All electrical connections are pluggable.</p>	Type	Part No.	
	gesis RCZW-0/1 gesis RCZW-0/1D	1 relay output 1 dimming output	F0.000.0016.9 F0.000.0017.0
Infeed:			
Power input	230 V AC/16 A		
Connector	GST 18i3		
Coding	black		
Outputs			
Quantity	1		
Connection type	connector GST 18i3 coding black		
Rated voltage	230 V AC		
Switching capacity F0.000.0016.9	10 A ohmic load		
Dimming load F0.000.0017.0	R,C load 60 – 210 W		
General data:			
Degree of protection	IP20		
Dimensions (length/width/height)	53/118/35 mm		


Switching output with 1 channel

 <p>Single-channel output module with screw connections. The small design enables installation in in-wall outlet boxes or surface mount.</p>	Type	Part No.
	gesis RCUP-0/1	83.020.0506.0
Infeed:		
Power input	230 V AC / 16 A screw clamp terminals	
Outputs		
Quantity	1	
Connection type	screw clamp terminals	
Rated voltage	230 V AC	
Switching capacity F0.000.0016.9	5 A ohmic load	
General data:		
Installation	surface mounting, fixing with screws	
Degree of protection	IP30	
Dimensions (length/width/height)	48/29/35 mm	

Alarm transmitter for sunblind control and binary input

 <p>This device has eight digital alarm inputs as well as eight digital standard inputs. The input signals are sent as EnOcean telegrams. The alarm inputs can cyclically send defined alarm positions, top or bottom, for sunblind outputs. Time monitoring of the alarm telegrams is performed by the sunblind outputs.</p> <p>The standard inputs send defined EnOcean telegrams equivalent to the radio switches.</p>	Type	Part No.
	gesis RC R-16/0	83.020.0502.0
Infeed:		
Voltage	24 V DC ± 20%	
Current	35 mA	
Inputs:		
Quantity	8 x alarm inputs, 8 x binary inputs	
General data:		
Installation	on DIN rail TH 35	
Degree of protection	IP20	
Dimensions (width)	approx. 6 MW (93 mm)	
Accessories:		
Antenna	Part No. 83.020.0503.0	

Window contact

 <p>Batteryless and maintenance-free window contact with integrated power buffer for night operation.</p>	Type	Part No.
	gesis RC S-SRWSENFK	F0.000.0009.0
Supply:		
Solar cells	min. brightness 100Lux (best from 400Lux)	
Power reserve	min. 14 hours fully charged	
General data:		
Color	signal white similar to RAL 9003	
Dimensions (length/width/height)	110/19/15 mm	
Contact connector	magnet 23/14/6 mm	
Installation	surface	

EnOcean-KNX 56-fold gateway with 4 switching outputs



The gateway of the EnOcean radio technology to KNX manages 170 EnOcean telegrams and transfers them to 56 KNX objects. Independently from this, four switching outputs are available. All electrical connections are pluggable.

Type	Part No.
gesis EIB V-56/4 RC Three-phase main supply connection	83.020.0220.0 (output A1 → L1; A2 → L2; A3/A4 → L3)
gesis EIB V-56/4 RCSP Single-phase main supply connection	83.020.0220.1 (3-pole)
gesis EIB V-56/4 B RC Three-phase main supply/antenna conn.	83.020.0220.2 (output A1 → L1; A2 → L2; A3/A4 → L3)
gesis EIB V-56/4 B RCSP Single-phase main supply/antenna conn.	83.020.0220.3 (3-pole)
Infeed: Main power supply/KNX	230/400 V~, 50..60 Hz, max. 16 A; KNX
Outputs: Rated voltage	4, can be controlled separately 230 V AC
Switching current	max. 16 A ohmic load
Accessories: Antenna	Part No. 83.020.0503.0

EnOcean-LON gateway



The EnOcean-LON gateway can convert 170 EnOcean radio channels into 56 LON network variables. For this purpose LON is integrated first. Then the EnOcean senders are programmed to the relevant channels. This programming operation is performed directly on the gateway and does not require any software knowledge. Modifications or extensions on the radio side are performed without LON integration.

Type	Part No.
gesis LON R-56/0 (RC)	83.020.0320.0
Infeed: Supply Bus Extension module	12 V DC e.g. from gesis RM PS; approx. 60 mA LON (FTT 10 A transceiver)
Outputs: Quantity	56 LON network variables (NVs), types configurable
Inputs:	max. 170 links to EnOcean sensors possible assignment programmable without LON tool
Accessories: Antenna	Part No. 83.020.0503.0

Radio input from the **gesis**[®] RM system



The radio input that has to be operated with a base module that conforms to the type of system can manage 2 groups of eight inputs each. One slot per group is required on the base module. The radio sensors (e.g. push-buttons) are assigned directly on the module without any additional software (EnOcean learning mode).

Type	Part No.
gesis RM-16/0 (RC)	83.020.0408.0
Infeed: Base module	pluggable flat cable on the front panel
Inputs:	2 x 8, EnOcean sensors a total of 170 EnOcean telegrams can be programmed for the 16 inputs
Accessories: Antenna KNX base module LON base module	83.020.0503.0 83.020.0400.3 83.020.0300.3

Handheld radio transmitter, 4 channels



Batteryless and maintenance-free 4-channel handheld transmitter for direct control of the actuators.

Type	Color	Part No.
Handheld radio transmitter	similar to RAL 9010	F0.000.0009.1
Handheld radio transmitter	similar to RAL 9005	F0.000.0009.2
Handheld radio transmitter	silver finish	F0.000.0009.3
Handheld radio transmitter		
– Batteryless and maintenance-free		
– For stick-on surface mounting or as handheld remote control		

Radio switch, 2/4 channels glossy with suitable frame



This push-button series features a glossy, smooth surface. The radio switches with 2 or 4 channels do not require batteries or maintenance. The rockers are in neutral central position and without marking with 1/0 or up/down symbols. The matching frames for these push-buttons can be found below.



Energy self-sufficient Hotel Card switch for storage and simultaneous sending of an EnOcean telegram. Together with suitable actuators from the **gesis** RC device series, the power supply of the room can be operated directly or the signal can be transmitted to the building automation.



Frame for installation of the 2/4-channel glossy radio switches. Suitable for vertical and horizontal mounting.

Type	Color	Part No.	Marking
Radio switch, 2 channels	pure white	F0.000.0025.0	1 / 0
	pure white	F0.000.0025.2	(△▼)
	pure white	F0.000.0025.4	
	piano black	F0.000.0025.9	1 / 0
	piano black	F0.000.0026.1	(△▼)
	piano black	F0.000.0026.3	
	aluminum	F0.000.0026.8	1 / 0
	aluminum	F0.000.0027.0	(△▼)
aluminum	F0.000.0027.2		
Radio switch, 4 channels	pure white	F0.000.0025.1	1 / 0
	pure white	F0.000.0025.3	(△▼)
	pure white	F0.000.0025.5	
	piano black	F0.000.0026.0	1 / 0
	piano black	F0.000.0026.2	(△▼)
	piano black	F0.000.0026.4	
	aluminum	F0.000.0026.9	1 / 0
	aluminum	F0.000.0027.1	(△▼)
aluminum	F0.000.0027.3		
<p>* 2 channels represent one rocker in neutral center position. This function is defined in the receiver.</p> <p>* 4 channels represent two rockers in neutral center position. This function is defined in the receiver.</p> <ul style="list-style-type: none"> - glossy surface - batteryless and maintenance-free - for installation on flat surfaces with screws or adhesive pads (included in delivery) - the combination frames have to be ordered separately 			
Type	Color	Part No.	
Hotel Card switch	white	F0.000.0024.6	
Hotel Card switch	piano black	F0.000.0024.7	
Hotel Card switch	aluminum	F0.000.0024.8	
Power supply:		energy is produced when the card is inserted	
Energy self-sufficient		surface, stick-on or screws	
Installation:		surface, on a standard in-wall outlet box	
Dimensions:		55 x 85 mm (standard dimensions)	
Hotel Card			
Combination frame 1-fold	pure white	F0.000.0025.6	
	pure white	F0.000.0025.7	
	pure white	F0.000.0025.8	
Combination frame 1-fold	piano black	F0.000.0026.5	
	piano black	F0.000.0026.6	
	piano black	F0.000.0026.7	
Combination frame 1-fold	aluminum	F0.000.0027.4	
	aluminum	F0.000.0027.5	
	aluminum	F0.000.0027.6	

Repeater, 2-level



This repeater receives EnOcean telegrams and sends these as they are with maximum transmitting power, either in 1 or 2-level operation. This amplifies the radio signal twice at the maximum and enhances the radio range significantly.

Type	Part No.
Repeater	F0.000.0024.5
Power supply: Rated voltage	230 V AC
Installation Installation option	in-wall outlet box or surface mount fixing clip for a standard 60mm outlet socket
Dimensions (height/width/installation depth)	48/50/35 mm

Antenna for EnOcean devices with external antenna



The 868.6 MHz antenna is suitable for connection to Wieland **gesis** devices with a SMA female connector. The black antenna can be mounted using a magnetic foot and has a 2.5m connection cable.

Type	Part No.
Antenna	83.020.0503.0
Antenna	
– 868.3MHz antenna	
– mounted with magnetic foot	
– incl. approx. 2.5m connection cable and SMA connector	

Radio switch, 2/4 channels and suitable frames (phase-out)



Batteryless and maintenance-free radio switches with 2/4 channels for direct control of the actuators. The rockers in neutral center position are marked with I/O or Up/Down (▲▼) symbols. Between the rockers there is a marking field with detachable marking strips. The following combination frames fit these radio switches.



Frame for installation of the 2/4-channel radio switches for vertical or horizontal mounting.

Type	Part No.
Radio switch, 2 channels	
white	F0.000.0002.1 I / 0
aluminum finish	F0.000.0004.4 I / 0
white	F0.000.0002.2 (▲▼)
aluminum finish	F0.000.0004.5 (▲▼)
Radio switch, 4 channels	
white	F0.000.0002.3 I / 0
aluminum finish	F0.000.0004.6 I / 0
white	F0.000.0002.4 (▲▼)
aluminum finish	F0.000.0004.7 (▲▼)
– batteryless and maintenance-free	
– for mounting on plane surfaces with screws or adhesive pads (included in delivery)	
Radio switch, 2/4 channels (light) I / 0	
– the rockers are imprinted with I/O symbols	
Radio switch, 2/4 channels (sunblind) Up / Down	
– the rockers are imprinted with Up/Down (▲▼) symbols	
Combination frame 1-fold	
white	F0.000.0002.5
aluminum finish	F0.000.0004.8
Combination frame 2-fold	
white	F0.000.0002.6
aluminum finish	F0.000.0004.9
Combination frame 3-fold	
white	F0.000.0003.5
aluminum finish	F0.000.0009.7
Combination frame, 1-fold to 3-fold	
– match the radio switches	
– not suitable for multivendor radio switches	

Outdoor installation



gesis[®] RST – plug & play outdoors

Electrical installation following the “Lego” principle

■ The challenge

Expert operation plays a major role, particularly for electrical installations outdoors. Difficult installation conditions and extreme time pressure often lead to errors, loss of protection and finally to the failure of the system.

■ The solution

As a complete installation system, **gesis** IP+ is optimally adapted to these increased requirements. It is very flexible in its application and has proven technology at its disposal. Luminaires can thus be delivered in a pre-assembled design. They only have to be plugged in on-site. The connectors are also touch-safe when they have not yet been plugged in; they provide a locking device against accidental loosening.

The possibility of connecting almost all customary cable types (including underground cables) as well as the IP 68 protection degree make the RST connector a strong partner for outdoor lighting.

■ Optimization

The system becomes even more versatile with **gesis** RCRST switching outputs with integrated EnOcean radio technology. The outputs for 230 V can switch 6 A at maximum and can be controlled with standard EnOcean key functions. Two LED drivers from the system family can be connected to each switched output. A transmission frequency of 868.3 MHz and EnOcean radio technology are used.



Benefits of the **gesis**[®] RST device series

- **Quick IP68 installation with pluggable connections**
- **Safe installation as devices do not have to be opened to connect them**
- **Easy installation with pre-assembled devices and cables**
- **Easy operation due to use of EnOcean radio technology**
- **Comprehensive as LED drivers are available in the system housing**

Common data

Type of protection	IP65, IP66, IP67 IP68 (3m, 2 hours) all IP protection degrees are only valid for plugged cables or closed connections
Connector	only from the gesis RST 20i2 and gesis RST 20i3 series
Dimensions	
high housing	104/162/96 mm
flat housing	104/162/58 mm
Housing	thermoplastic PA 66 halogen-free
Housing color	black

Data/radio technology

Technology	using the EnOcean protocol
Radio frequency	868.3 MHz
Range	

- Line-of-sight
 - Plaster board/wooden walls
 - Brick/gas-aerated concrete walls
 - Reinforced concrete walls/ceilings
 - Considerable limitations in the range
- typically 30m in corridors, up to 100m in halls
typically 30m through max. 5 walls
typically 20 m through max. 3 walls
typically 10 m through max. 1 floor/wall
(up to the shielding of the radio signal)

All electrically conductive materials (mostly metals) between the transmitter and the receiver or nearby impair the range.

	Switching application EnOcean 4-fold 83.020.0503.0	Switching application EnOcean 1-fold 83.020.0504.0	Switching application EnOcean 1-fold 83.020.0504.1	LED constant voltage supply 12V 83.020.0900.0	LED constant voltage supply 24V 83.020.0901.0	LED constant voltage supply 350mA 83.020.0902.0	LED constant voltage supply 700mA 83.020.0903.0	Low voltage halogen transformer 83.020.0904.0
Outputs (enOcean controlled)	4	1	1					
Outputs switching in parallel			2					
230V Through-wiring	1	1		1	1	1	1	1
LED outputs 12V/12W				1				
LED outputs 24V/12W					1			
LED outputs 350mA/12W						1		
LED outputs 700mA/12W							1	
Low voltage halogen output 21V/20-70W								1
RST 20i3 black for power								
RST 20i2 brown for low voltage								
RST 20i2 gray for low voltage								

^{*)} See the product range of the pluggable electrical installation system **gesis** CON



Garden installation with **gesis**[®] RST

Requirements

Switching various spotlights in a hotel garden. The individual switching groups are to be controlled via radio as there is only one supply line. Furthermore, trained personell shall be able to easily modify the system.

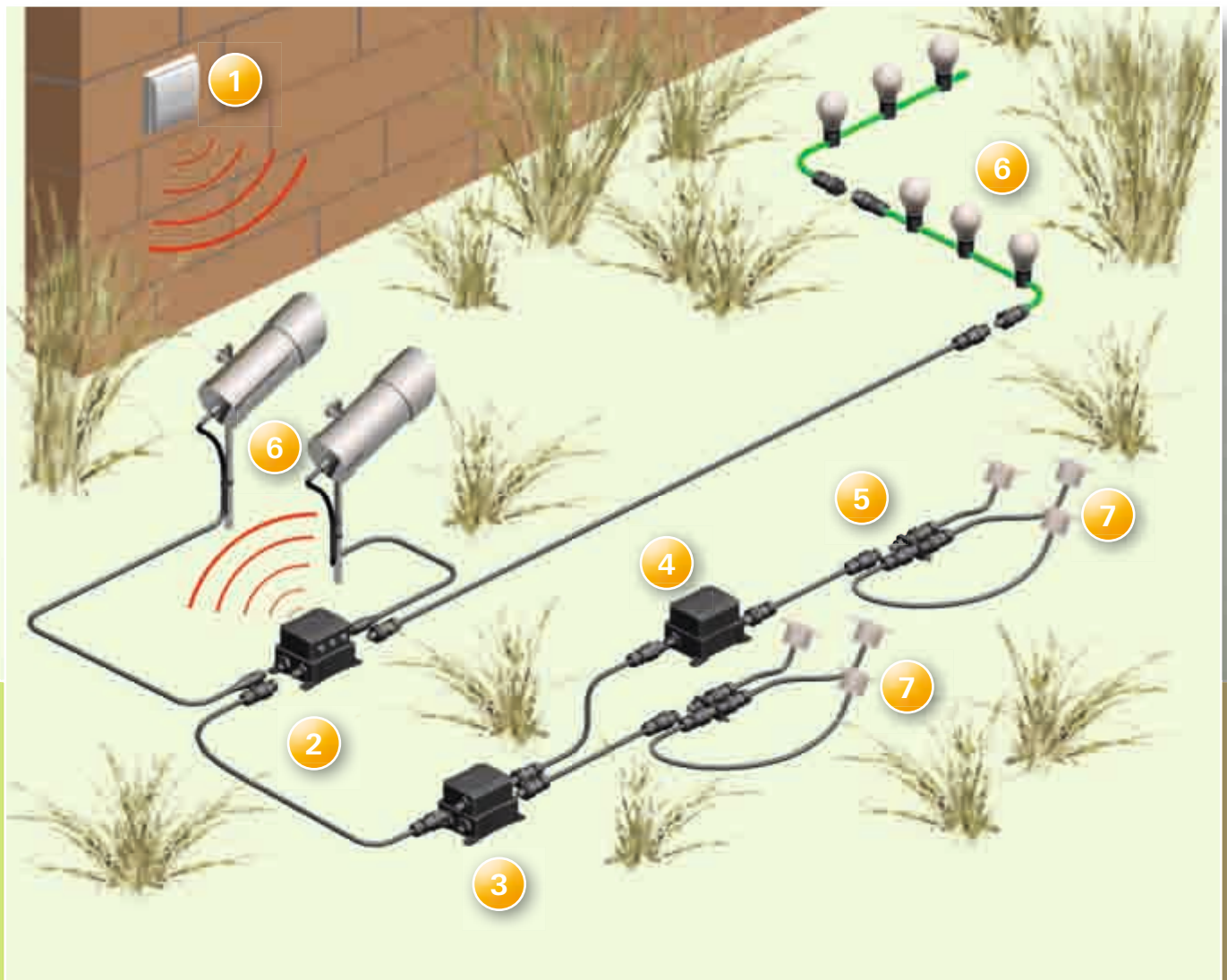
Realization

All components are pluggable. The **gesis**^{RST} connector system is used in order to meet the degree of protection required for electrical safety. The radio outputs are controlled with switches from indoors. To keep them in the same design as the other switches and sockets, multivendor switches and the corresponding design frames are used.


Wieland devices used

- | | | |
|---|--|---------------|
| ① | 2 x push-buttons 4-channel | F0.000.0002.3 |
| ② | 1 x EnOcean switching application 4-fold | 83.020.0505.0 |
| ③ | LED constant current supply 350 mA | 83.020.0902.0 |
| ④ | LED constant current supply 350 mA | 83.020.0902.0 |
| ⑤ | Distribution block for series connection | 99.910.0000.7 |
| ⑥ | Lighting 230V with RST 20i3 connection 230V | |
| ⑦ | LED spotlight with RST 20i2 connection max. 50 V | |


The initial connection is made to a female connector for pre-assembly on-site. The connection cables in various lengths are also pre-assembled. Connections not used are closed with covers.




Switching application EnOcean 4-fold

 <p>EnOcean 4-fold switching outputs in the IP68 surface housings for outdoor use feature four 230V relays. They can be programmed for 30 push-button pairs. All electrical connections are pluggable.</p>	<table border="1"> <thead> <tr> <th>Type</th> <th>Part No.</th> </tr> </thead> <tbody> <tr> <td>gesis RC RST-0/4</td> <td>83.020.0505.0</td> </tr> </tbody> </table>	Type	Part No.	gesis RC RST-0/4	83.020.0505.0																	
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Dimensions (length/width/height)	104/162/96mm																					
Installation option	4 elongated holes																					


Switching application EnOcean 4-fold

 <p>EnOcean 1-fold switching outputs in the IP68 surface housing for outdoor use feature one 230V relay. They can be programmed for 30 push-button pairs. All electrical connections are pluggable.</p>	<table border="1"> <thead> <tr> <th>Type</th> <th>Part No.</th> </tr> </thead> <tbody> <tr> <td>gesis RC RST-0/1</td> <td>83.020.0504.0</td> </tr> <tr> <td>gesis RC RST-0/1x2</td> <td>83.020.0504.1</td> </tr> </tbody> </table>	Type	Part No.	gesis RC RST-0/1	83.020.0504.0	gesis RC RST-0/1x2	83.020.0504.1															
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Constant power supply unit, 350 mA DC

 <p>Constant power supply unit 350 mA for connecting LEDs. Connections not used have to be closed.</p>	<table border="1"> <thead> <tr> <th>Type</th> <th>Part No.</th> </tr> </thead> <tbody> <tr> <td>gesis RST PSI 350/12 LED</td> <td>83.020.0902.0</td> </tr> </tbody> </table>	Type	Part No.	gesis RST PSI 350/12 LED	83.020.0902.0															
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Constant power supply unit, 700 mA DC

 <p>Constant power supply unit 700 mA for connecting LEDs. Connections not used have to be closed.</p>	<table border="1"> <thead> <tr> <th>Type</th> <th>Part No.</th> </tr> </thead> <tbody> <tr> <td>gesis RST PSI 700/12 LED</td> <td>83.020.0903.0</td> </tr> </tbody> </table>	Type	Part No.	gesis RST PSI 700/12 LED	83.020.0903.0															
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gesis RST PSI 700/12 LED	83.020.0903.0																			
<table border="1"> <tbody> <tr> <td colspan="2">Incoming supply:</td> </tr> <tr> <td>Input Power (male connector)</td> <td>230V AC/20A RST 20i3 coding black</td> </tr> <tr> <td>Output Power (female connector)</td> <td>230V AC/20A RST 20i3 coding black</td> </tr> <tr> <td>Output LED (female connector)</td> <td>700mA DC/max. 12W RST 20i2 coding brown</td> </tr> <tr> <td colspan="2">General data:</td> </tr> <tr> <td>Type of protection</td> <td>IP68 (all connections plugged or closed)</td> </tr> <tr> <td>Ambient temperature</td> <td>-25°C to +55°C</td> </tr> <tr> <td>Dimensions (length/width/height)</td> <td>104/162/96mm</td> </tr> <tr> <td>Installation option</td> <td>4 elongated holes</td> </tr> <tr> <td>Electrical connections</td> <td>pluggable with RST 20i2 ... 20i3</td> </tr> </tbody> </table>	Incoming supply:		Input Power (male connector)	230V AC/20A RST 20i3 coding black	Output Power (female connector)	230V AC/20A RST 20i3 coding black	Output LED (female connector)	700mA DC/max. 12W RST 20i2 coding brown	General data:		Type of protection	IP68 (all connections plugged or closed)	Ambient temperature	-25°C to +55°C	Dimensions (length/width/height)	104/162/96mm	Installation option	4 elongated holes	Electrical connections	pluggable with RST 20i2 ... 20i3
Incoming supply:																				
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Installation option	4 elongated holes																			
Electrical connections	pluggable with RST 20i2 ... 20i3																			


LED constant voltage supply, 12V DC

 <p>Constant voltage supply unit 12 V for connecting LEDs. Connections not used have to be closed.</p>	<table border="1"> <thead> <tr> <th>Type</th> <th>Part No.</th> </tr> </thead> <tbody> <tr> <td>gesis RST PSU 12/12 LED</td> <td>83.020.0900.0</td> </tr> </tbody> </table>	Type	Part No.	gesis RST PSU 12/12 LED	83.020.0900.0
	Type	Part No.			
gesis RST PSU 12/12 LED	83.020.0900.0				
<p>Incoming supply: Input power (male connector) 230 V AC/20A RST 20i3 coding black Output power (female connector) 230 V AC/20A RST 20i3 coding black Output LED (female connector) 12 V DC/max. 12 W RST 20i2 coding pebble gray</p> <p>General data: Type of protection IP 68 (all connections plugged or closed) Ambient temperature -25 °C to +55 °C Dimensions (length/width/height) 104/162/96 mm Installation option 4 elongated holes Electrical connections pluggable with RST 20i2 ... 20i3</p>					

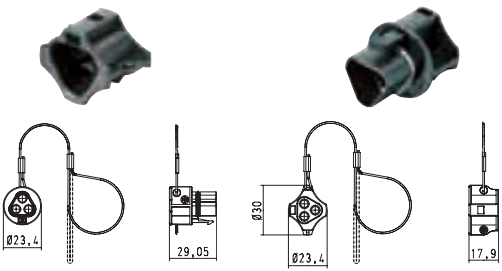
LED constant voltage supply, 24V DC

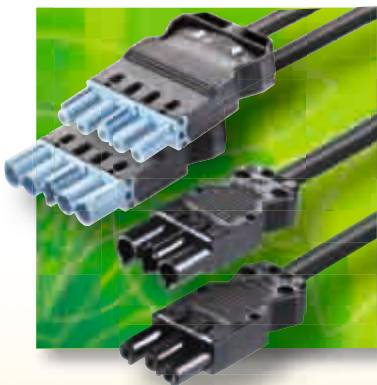
 <p>Constant voltage supply unit 24 V for connecting LEDs. Connections not used have to be closed.</p>	<table border="1"> <thead> <tr> <th>Type</th> <th>Part No.</th> </tr> </thead> <tbody> <tr> <td>gesis RST PSU 24/12 LED</td> <td>83.020.0901.0</td> </tr> </tbody> </table>	Type	Part No.	gesis RST PSU 24/12 LED	83.020.0901.0
	Type	Part No.			
gesis RST PSU 24/12 LED	83.020.0901.0				
<p>Incoming supply: Input power (male connector) 230 V AC/20A RST 20i3 coding black Output power (female connector) 230 V AC/20A RST 20i3 coding black Output LED (female connector) 12 V DC/max. 12 W RST 20i2 coding pebble gray</p> <p>General data: Type of protection IP 68 (all connections plugged or closed) Ambient temperature -25 °C to +55 °C Dimensions (length/width/height) 104/162/96 mm Installation option 4 elongated holes Electrical connections pluggable with RST 20i2 ... 20i3</p>					

Transformer for low-voltage halogen luminaires, 12V AC

 <p>Power supply unit 12 V for connecting halogen luminaires. Connections not used have to be closed.</p>	<table border="1"> <thead> <tr> <th>Type</th> <th>Part No.</th> </tr> </thead> <tbody> <tr> <td>gesis RST PSU 12/70 LVH</td> <td>83.020.0904.0</td> </tr> </tbody> </table>	Type	Part No.	gesis RST PSU 12/70 LVH	83.020.0904.0
	Type	Part No.			
gesis RST PSU 12/70 LVH	83.020.0904.0				
<p>Incoming supply: Input power (male connector) 230 V AC/20A RST 20i3 coding black Output power (female connector) 230 V AC/20A RST 20i3 coding black Output LV halogen (female connector) 12 V AC/20 – 70 W RST 20i2 coding pebble gray Output LV halogen cable length max. 2 m</p> <p>General data: Type of protection IP 68 (all connections plugged or closed) Ambient temperature 0 °C to +45 °C (derating from 35 °C) Dimensions (length/width/height) 104/162/96 mm Installation option 4 elongated holes Electrical connections pluggable with RST 20i2 ... 20i3</p>					

Accessories: covers

 <p>The covers have to be used to close all unused inputs and outputs. Without these covers, only IP20 is achieved!</p>	<table border="1"> <thead> <tr> <th>Type</th> <th>Part No.</th> </tr> </thead> <tbody> <tr> <td>Suitable for all RST 20i2 and RST 20i3 codings</td> <td></td> </tr> <tr> <td>For male connector captive against loss</td> <td>99.416.6205.2</td> </tr> <tr> <td>For male connector not captive against loss</td> <td>05.564.4453.1</td> </tr> <tr> <td>For female connector captive against loss</td> <td>99.414.6205.2</td> </tr> <tr> <td>For female connector not captive against loss</td> <td>Z5.564.4553.1</td> </tr> </tbody> </table>	Type	Part No.	Suitable for all RST 20i2 and RST 20i3 codings		For male connector captive against loss	99.416.6205.2	For male connector not captive against loss	05.564.4453.1	For female connector captive against loss	99.414.6205.2	For female connector not captive against loss	Z5.564.4553.1
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For male connector not captive against loss	05.564.4453.1												
For female connector captive against loss	99.414.6205.2												
For female connector not captive against loss	Z5.564.4553.1												



GST 18i 3-pole to 6-pole

The product range for the installation of lighting systems, switches and outlets, 3, 4, 5, or 6-pole. Mechanical coding enables a clear separation of different applications. In addition, the color of the connectors indicates the relevant links.

Features

- Proven connector system for fixed installations
- Consistent according to IEC 61535
- Pre-assembled cables save time at the construction site

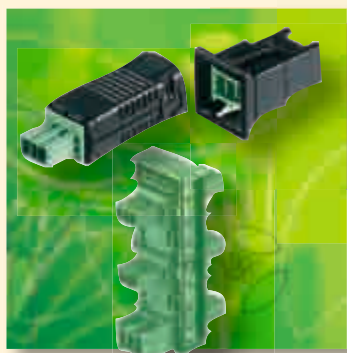


GST 15, 2-pole to 5-pole

Connector for connection directly on-site. Male or female complete with strain relief for connection of all current types of cable. 2- to 5-pole with different codings.

Features

- Compact MINI connectors
- Integrated locking device
- Connection of cables up to a cross-section of 2.5 mm²
- Codings for mains voltage, low-voltage and dimmer applications
- Straight and elbow strain relief for 4 and 5-pole connectors



BST 14i2 and BST 14i3

BST allows the pluggable installation even of signal applications. Mechanical coding and clear assignments by different colors make installation easy: green for EIB/KNX applications, black for general signal or LON applications.

Features

- Standard connectors for KNX applications
- Distribution units and device connectors
- Pre-assembled cables



RST 20i 2-pole to 5-pole

The RST system serves as safe and durable cabling with increased degree of protection. The types of protection IP65/67 and IP68 (3m, 2 hours) prevent ingress of e.g. water, dust, oil and soot. The RST system features various codings that are not plug-compatible with each other. This is ideal to keep different applications separate, ensuring correct polarity.

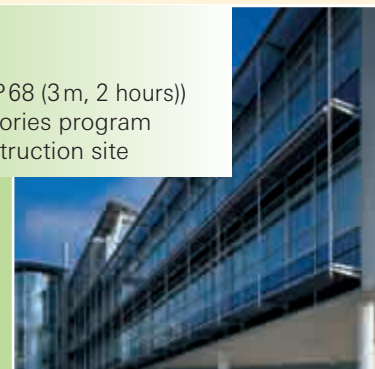
Features

- Quick, safe and easy installation
- Increased degree of protection (IP65/67 and IP68 (3m, 2 hours))
- Comprehensive distribution unit and accessories program
- Pre-assembled cables save time at the construction site



More detailed product information:
0600.1 **gesis** CON
The Art of Plugging
Electrical installation of buildings
via plug & play

Available directly from our download center
on the Internet in PDF format;
product information also in e-CAT at
<http://eshop.wieland-electric.com>





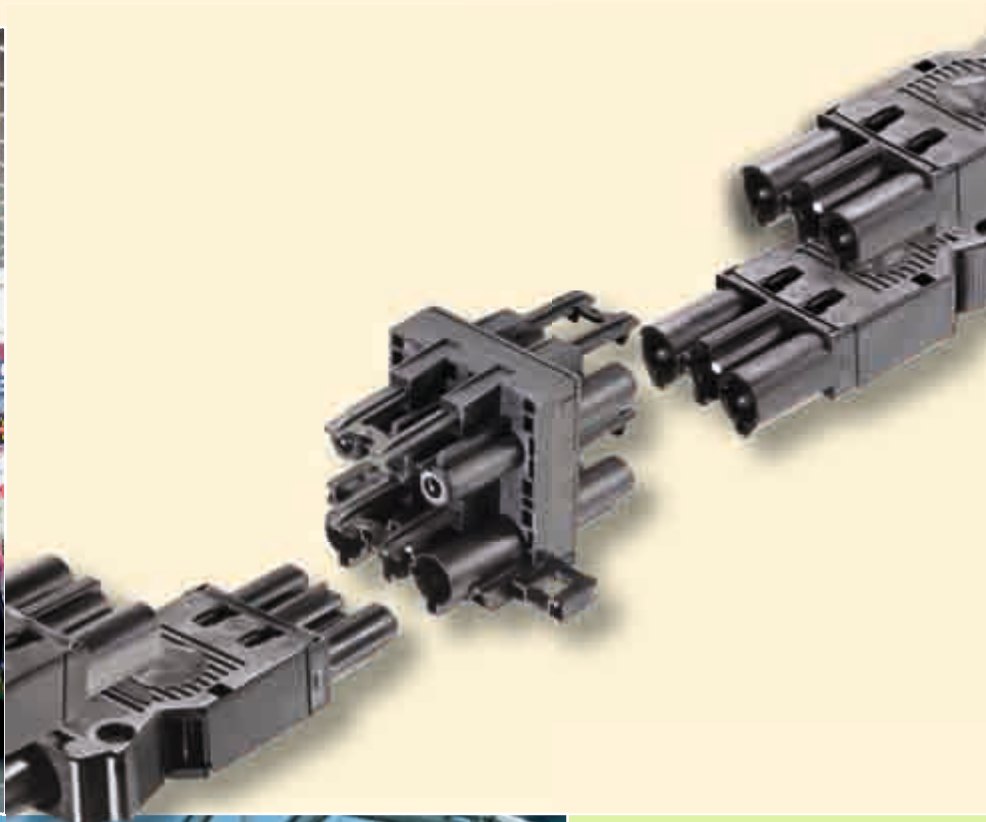
Facility management – simply plug it in Perfect building installation

gesis[®] – one name, one idea, an unparalleled success story! With pluggable electrical installation, Wieland has been the unchallenged market leader for 30 years. No wonder since time savings of 70 % and cost reductions of 30 % always speak for themselves.

The benefits of the plug-and-play principle are apparent everywhere: no more cutting to length, stripping and threading into terminals: **gesis** system components are industrially pre-assembled and tested. Everything fits perfectly, and only needs to be plugged together on-site. **gesis** is the standard for safe and error-free installation.

The **gesis** system comprises connectors, radio-controlled switching units, devices for decentralized building automation and pluggable distribution boxes for state-of-the-art facility management, cables, and busbar and low-voltage systems.






gesis CON is the ingenious principle for building installation technology – in high-rise buildings just as in family homes, and from the basement to the roof. The unique variety of more than 5,000 components offers solutions for any kind of electrical installation.



Connector system in IP 20 format for Outputs

GST 18i3, coding 1, black		GST 18i4, coding 1, black		GST 18i5, coding 1, black		GST 18i5, coding 1, pastel blue	
Length m	Part No.	Length m	Part No.	Length m	Part No.	Length m	Part No.
Use for switching outputs (relay) 230V AC		Use for sunblind outputs 230V AC		Use for switching outputs (relay) 230V AC, 5-pole		Use for switching/ dimming outputs	
gesis EIB V		gesis EIB V		gesis EIB V		gesis EIB V	
Combination actuator	83.020.0212.x	Sunblind output	83.020.0221.x	Switching output	83.020.0214.x	Switching/dimming output	83.020.0213.x
Gateway	83.020.0220.x	Sunblind output	83.020.0222.4			gesis EIB M2	
Switching output	83.020.0225.x	Combination actuator	83.020.0212.x			Switching/dimming output	83.020.1026.x
gesis RC		gesis RC					
Switching output	83.020.0500.x	Sunblind output	83.020.0501.x				
gesis FLEX		gesis FLEX					
Switching output	83.020.0623.x	Sunblind output	83.020.0624.x				
gesis EIB M2		gesis EIB M2					
Switching output	83.020.1023.x	Sunblind output	83.020.1024.x				
Male, screw connection		Male, screw connection		Male, screw connection		Male, screw connection	
							
Test plug	92.932.3053.1 92.002.5153.1	Test plug	92.944.3053.1 92.002.5253.1		92.954.4053.1	Test plug	92.954.4453.0 92.002.5353.0
Male – free end 3 x 1.5 H05VV-F (PVC)		Male – free end 4 x 1.5 H05VV-F (PVC)		Male – free end 5 x 1.5 H05VV-F (PVC)		Male – free end 5 x 1.5 H05VV-F (PVC)	
							
1.0 to 8.0	92.232.1004.1 92.232.8004.1	1.0 to 8.0	92.207.1004.1 92.207.8004.1	1.0 to 8.0	92.257.1004.1 92.257.8004.1	1.0 to 8.0	92.257.1004.9 92.257.8004.9
Male – female 3 x 1.5 H05VV-F (PVC)		Male – female 4 x 1.5 H05VV-F (PVC)		Male – female 5 x 1.5 H05VV-F (PVC)		Male – female 5 x 1.5 H05VV-F (PVC)	
							
1.0 to 8.0	92.232.1000.1 92.232.8000.1	1.0 to 8.0	92.207.1000.1 92.207.8000.1	1.0 to 8.0	92.257.1000.1 92.257.8000.1	1.0 to 8.0	92.257.1000.9 92.257.8000.9

Connector system in IP 20 format for Inputs



GST 15i5, coding 3, light blue		GST 18i5, coding 3, light blue		GST 18i4, coding 2, pebble gray	
Length m	Part No.	Length m	Part No.	Length m	Part No.
Use for binary input 24V DC		Use for binary input 24V		Use for binary input 230V	
gesis FLEX		gesis EIB M2		gesis EIB M2	
Input	83.020.0622.0	Input 24V	83.020.0214.x	Input 230V	83.020.0214.x
Male, spring clamp connection as fig., but light blue contact zone		Male, screw connection		Male, screw connection	
					
Test plug	91.952.4353.0 92.002.5453.0	92.954.3353.0		Test plug	92.944.3553.0 92.002.5053.0
Male – free end as fig., but light blue contact zone		Male – free end 5 x 0.75 Ölflex Classic (PVC)		Male – free end 4 x 1.5 H05VV-F (PVC)	
					
on request		4.0 8.0	99.332.6200.0 99.336.6200.0	1.0 8.0 to	92.207.1004.3 92.207.8004.3
Male – female as fig., but light blue contact zone		Male – female 5 x 0.75 Ölflex Classic (PVC)		Male – female 4 x 1.5 H05VV-F (PVC)	
					
on request		4.0 8.0	99.342.6200.0 99.346.6200.0	1.0 8.0 to	92.207.1000.3 92.207.8000.3

Connector system in IP 20 format for Incoming supply

for **gesis**® EIB V

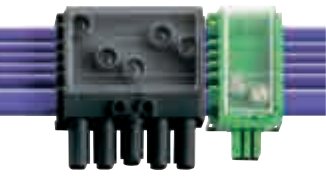
Power/KNX flat cable
Power: GST 18i5/i3 black
KNX: BST 14i2 green

Flat cable 5-pole + 2-pole


PVC	00.702.0323.9
Halogen-free	00.709.0323.9

IDC connection
Flat cable adapter 5-pole



Power	92.051.0353.1
KNX	93.421.0853.0

IDC connection
Flat cable adapter 3-pole



Power tap L1	92.031.4153.1
Power tap L2	92.031.4253.1
Power tap L3	92.031.4353.1
KNX	93.421.1153.0

IDC connection
KNX flat cable adapter





Without spacer	93.421.0853.0
With spacer	93.421.1153.0

for **gesis**® RC

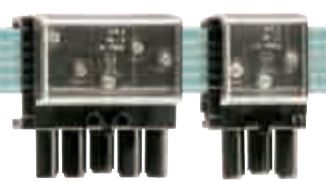
Power/KNX flat cable
Power: GST 18i3 black

Flat cable 5-pole

PVC	00.702.0303.7
Halogen-free	00.709.0303.7

IDC connection
Flat cable adapter 3-pole



Power tap L1-L3	92.051.0553.1
Power tap L1	92.031.5153.1
Power tap L2	92.031.5253.1
Power tap L3	92.031.5353.1

Flat cable accessories



Sheath stripping tool	95.350.0200.0
Cable cutter	95.300.0300.0

Cable clips for flat cable



For 2.5 mm²	05.562.3000.0
For 10 and 16 mm²	05.563.9753.0

Lock for various connections

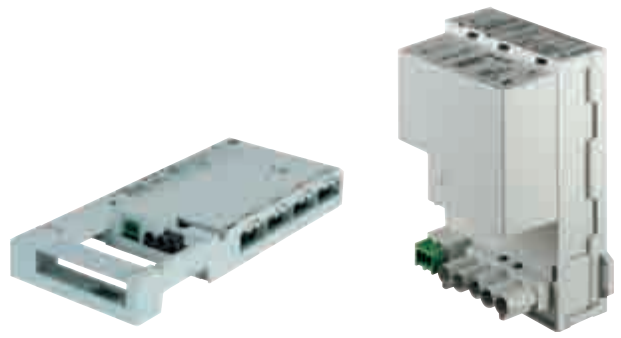
Locking devices female – male for cables

Locking device
 Locking devices must be provided for all pluggable connections (except for BST 14i2, GST 15i5).



white	05.587.3156.0
black	05.587.3156.1

Locking devices for the incoming supply of devices



gesis RC / EIB V	83.020.0225.0	gesis EIB M2	83.020.1020.0
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Locking device combinations	Incoming supply gesis RC/EIB V	Incoming supply gesis EIB M2
Flat cable adapter GST 18i3 power 3-pole	05.590.4556.1 (bl) 05.590.4556.0 (wh)	–
Flat cable adapter GST 18i3 power 5-pole	05.590.4556.1 (bl) 05.590.4556.0 (wh)	05.590.4556.1 (bl) 05.590.4556.0 (wh)
GST 18i3/i5 connector (not for snap-in and distribution blocks)	05.587.3156.1 (bl) 05.587.3156.0 (wh)	05.587.3156.1 (bl) 05.587.3156.0 (wh)

Connector system in IP 20 format for Incoming supply

GST 18i3, coding 1, black

GST 18i5, coding 1, black

BST 14i2, coding 1, green

Length m	Part No.	Length m	Part No.	Length m	Part No.
Use for mains feed 1-phase, 3-pole		Use for mains feed 3-phase, 5-pole		Use for KNX feed KNX-TP, SELV	
gesis EIB V		gesis EIB V		gesis EIB V	
Combination actuator	83.020.0212.4	Combination actuator	83.020.0212.0	Combination actuator	83.020.0212.x
Switching/dimming output	83.020.0213.4	Switching/dimming output	83.020.0213.0	Switching/dimming output	83.020.0213.x
Gateway	83.020.0220.1	Switching output	83.020.0214.0	Switching output	83.020.0214.0
Gateway	83.020.0220.3	Gateway	83.020.0220.0	Gateways	83.020.0220.x
Sunblind output	83.020.0221.4	Gateway	83.020.0220.2	Sunblind output	83.020.0221.x
Sunblind output	83.020.0222.4	Sunblind output	83.020.0221.0	Sunblind output	83.020.0222.4
Switching output	83.020.0225.4	Switching output	83.020.0225.0	Switching output	83.020.0225.x
gesis RC		gesis EIB M2		gesis EIB M2	
Switching output	83.020.0500.x	Base modules	83.020.1020.0	Base modules	83.020.1020.0
Sunblind output	83.020.0501.x	gesis FLEX		gesis FLEX	
gesis EIB M2		Base modules	83.020.0600.x	Base modules	83.020.0600.x
Base modules	83.020.0601.x	Feed modules	83.020.0610.x		
Feed modules	83.020.0611.x				
Female, screw connection		Female, screw connection		Female, spring clamp connection	
					
92.931.3053.1		92.953.4053.1		93.421.0553.1	
Female – free end 3 x 1.5 H05VV-F (PVC)		Female – free end 5 x 1.5 H05VV-F (PVC)		Female – free end 2x2x0.8 FB-2Y(ST)2Y (PVC)	
					
1.0 to	92.232.1004.1	1.0 to	92.257.1003.1	1.0 to	94.425.1003.7
8.0 to	92.232.8004.1	8.0 to	92.257.8003.1	8.0 to	94.425.8003.7
Male – female 3 x 1.5 H05VV-F (PVC)		Male – female 5 x 1.5 H05VV-F (PVC)		Male – female 2x2x0.8 FB-2Y(ST)2Y (PVC)	
					
1.0 to	92.232.1000.1	1.0 to	92.257.1000.1	1.0 to	94.425.1000.7
8.0 to	92.232.8000.1	8.0 to	92.257.8000.1	8.0 to	94.425.8000.7

Connector system RST in IP 65...68 format for Incoming supply, output, accessories

Length m/Cable Ø	Part No.	Length m/Cable Ø	Part No.	Length m/Cable Ø	Part No.	Length m	Part No.
Incoming supply Power 3-pole RST 20i3 black		Output (voltage) LED/LV halogen RST 20i2 gray		Output (power) LED RST 20i2 brown		Covers RST 20i2 and RST 20i3	
Female, screw connection		Female, screw connection		Female, screw connection		Female, cover, black	
				6 – 10 mm 10 – 14 mm	96.031.4053.1 96.031.4153.1	6 – 10 mm 92.021.4050.8	6 – 10 mm 96.021.4051.4
Not captive against loss Captive against loss	Z5.564.4553.1 99.414.6205.2						
Male, screw connection		Male, screw connection		Male, screw connection		Male, cover, black	
				6 – 10 mm 10 – 14 mm	96.032.4053.1 96.032.4153.1	6 – 10 mm 96.022.4050.8	6 – 10 mm 96.022.4051.4
Not captive against loss Captive against loss	05.564.4453.1 99.416.6205.2						
Female – Male H07RN-F 2x15*)		Female – Male H07RN-F 2x15*)		Female – Male H07RN-F 2x15*)		Jumperplug RST 20i2 brown Note: Only use jumper plug for serial distribution box 99.910.0000.7	
				1.0 8.0 to	96.222.1030.1 96.222.8030.1	1.0 8.0 to	96.222.1032.8 96.222.8032.8
				1.0 8.0 to	96.222.1032.4 96.222.8032.4		96.537.0000.7
Distribution block 1I/3O parallel		Distribution block 1I/3O parallel		Note: For LED applications with constant current supply, the luminaires have to be connected in series. The serial distribution block has been especially designed for this purpose. Outputs not used must be closed with the jumper plug. Circuit diagram 1I/3O serial		Distribution block 1I/3O serial	
					With mounting option Without mounting option	96.030.0153.0 96.030.0253.0	With mounting option Without mounting option
					96.020.0150.8 96.020.0250.8		99.910.0000.7

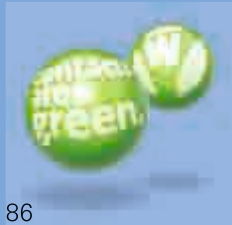
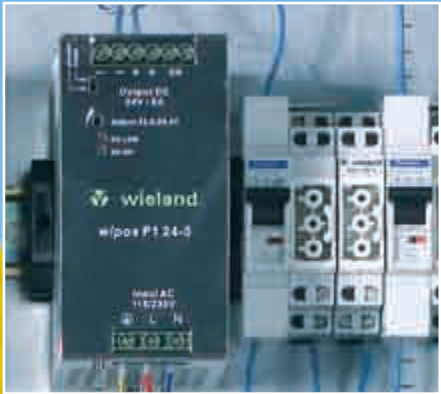
*) Other cables/designs available on request (see also catalog **gesis** IP+)



More detailed product informations:

0690.1 **gesis** IP+
Pluggable electrical
installations in IP68
Catalog 2013

Available directly from our download center on the Internet in PDF format;
product information also in e-CAT at <http://eshop.wieland-electric.com>




wipos Power supply units


Pure power. No knick-knacks.

Power supply units play a critical role in the control cabinet. Their reliability greatly influences system availability. Providing a robust and proven design is therefore very important.


In the **wipos** series, we dispense with useless knick-knacks and offer power supply units that impress with their important characteristics.


wipos – convincing in these essential disciplines:


 **100% performance** up to 60° C

 **High operational safety** due to long power back-up times of more than 30 ms

 **Auto or wide-range voltage input** for worldwide use

 **Balance of voltage drops** with settable output voltage

 **Outdoor installation possible** due to wide temperature range

 **Simple commissioning** with LED diagnosis



Further power supply units can be found in our **interface** catalog.

0800.1 "interface
Solutions for the control cabinet "
Catalog 2014





Table 1

LEMP protection of buildings with electric and electronic systems according to IEC62305-4 (DIN EN 62305-4, DIN 0185-305-4)

Lightning protection zones

- LPZ 0_A Risk due to direct hit, surge current up to the full lightning current and the full lightning electromagnetic field.
- LPZ 0_B Protected against direct hits. Risk due to surge current up to partial lightning current and the full lightning electromagnetic field.
- LPZ 1 Surge current is further limited by current sharing and by SPDs at the zone borders. Shielding may attenuate the lightning electromagnetic field.
- LPZ 2 Surge current is further limited by current sharing and by SPDs at the zone borders. Spatial shielding may attenuate the lightning electromagnetic field.



Our lightning and overvoltage protection devices can be found in our *interface* catalog.

0800.1 "*interface*
Solutions for the control cabinet"
Catalog 2014



wietap

The overvoltage protection

Important facts about overvoltage

Overvoltage protection is becoming increasingly important not only for machines and systems but also in building technology. The risk of destruction of valuable electronic components or even complete production plants, computer or communication systems caused by sudden overvoltages or direct lightning strikes is alarming not only insurers. It is wise for users to secure their electrical devices, plants and systems adequately and reliably against this threat and expand their availability.



Overvoltage protection modules

Overvoltage protection modules are divided into three types that are characterized by their ability to absorb overvoltage energies. Type 1 arresters can divert the highest amount of energy to the ground (PE). These devices are ideally placed at the point of incoming supply to a building. The surge current will be clearly attenuated in the installation. In sub-distributions and control cabinets, the residual energy will be reduced further by types 2 and 3 to such a degree that the end devices can absorb it without stress.



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connector concepts
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Smallness on a high level
Compact connectors
for luminaires and
building automation
- 0640.1 **gesis** MINI
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The pluggable electrical installation
with a compact design
- 0650.1 **gesis** MICRO
Strong like the big ones
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in mini-format
- 0660.1 **gesis** NRG
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The Art of Plugging

Part No. 0600.1

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for remote electronic distribution units:

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Schools

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Wieland product overview

Part No. 0902.0

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Industrial technology

Solutions for the control cabinet

- DIN rail terminal blocks
 - Screw, tension spring or push-in connection technology
 - Wire cross-sections up to 240 mm²
 - Numerous special functions
 - Software solutions interfacing to CAE systems
- Safety
 - Safe signal acquisition
 - Safety switching devices
 - Modular safety modules
 - Compact safety controllers
 - Application consulting and training
- Network engineering and fieldbus systems
 - Remote maintenance via VPN industrial router and VPN service portal
 - Industrial Ethernet switches
 - PLC and I/O systems, standard and increased environmental conditions
- Interface
 - Power supply units
 - Overvoltage protection
 - Coupling relays, semiconductor switches
 - Timer relays, measuring and monitoring relays
 - Analog coupling and converter modules
 - Passive interfaces

Solutions for field applications

- Decentralized installation and automation technology
 - Electrical installation for wind tower
 - Fieldbus interfaces and motor starters
- Connectors for industrial applications
 - Rectangular and round connectors
 - Aluminum or plastic housings
 - Degree of protection up to IP68
 - Current-carrying capacity up to 100 A
 - Connectors for hazardous areas
 - Modular, application-specific technology

PC board terminals and connectors

- Screw or spring clamp connection technology
- Spacings: 3.5 mm to 10.16 mm
- Reflow or wave soldering process

Building and installation technology

- Building installation systems
 - Main power supply connectors IP20/IP65...IP68
 - Bus connectors
 - Low-voltage connectors
 - Power distribution system with flat cables
 - Distribution systems
 - Bus systems in KNX, LON and wireless technology
 - DIN rail terminal blocks for electrical installations
 - Overvoltage protection

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contacts
are
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