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

 gesis® ELECTRONIC

 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 IP 68
   – 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 IP 20/IP 65 ... IP 68
   – 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
Room automation with Wieland

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

**gesis**® RC
radio technology without batteries for wireless sensors

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

**gesis**® EIB M2
the modular, pluggable KNX system for maximum flexibility on-site
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® 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.
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.
ingesis® 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.

biesis® 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: 1 meter maximum, use system-compatible cables
Maximum length: 3 m as total across all devices and system extensions
Module dimensions:
- Height (vertically from the top edge of the top-hat rail):
  - all except DIN rail: 44 mm
  - DIN rail housing (without protective cover): 80 mm
  - DIN rail housing (with protective cover): 94 mm
- Width (crossways to the top-hat rail):
  - all except DIN rail: 149 mm
  - DIN rail housing (without screw fittings): 149 mm
  - DIN rail housing (including screw fittings): 173 mm
- 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

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Connection / connection type

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<tr>
<td>5-pole (GST165 light blue)</td>
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<td>3-pole (GST163 black)</td>
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<tr>
<td>4-pole (GST164 black)</td>
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<tr>
<td>Screw fittings</td>
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</table>

Plug set included

* See the product range of the pluggable electrical installation system gesa.com
** 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 12 V (SELV) gesis FLEX 8/0-(12)
2 x binary output 4-fold 230 V 16 A gesis FLEX 0/4
2 x sunblind output 2-fold 230 V 8 A gesis FLEX 0/2W
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

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 83.020.0601.1: all necessary plugs are enclosed.

**Feed**
- **Mains**: 230/400 V; 3 x 16 A
- **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

<table>
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<tr>
<th>Type</th>
<th>Std. Pack</th>
<th>Part No.</th>
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<td>gesis KNX FLEX-BAS</td>
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<td>gesis KNX FLEX-BAS Z</td>
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<td>with plug set</td>
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<td>1 mains feed 5-pole GST18i5, black</td>
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<td></td>
<td></td>
<td>1 bus feed 2-pole, BST14i2, green</td>
</tr>
</tbody>
</table>

KNX base modules 1-phase feed

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**: 230 V; 16 A
- **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

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<tr>
<th>Type</th>
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<th>Part No.</th>
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<tr>
<td>gesis KNX FLEX-BAS SP Z</td>
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<tr>
<td>with plug set</td>
<td></td>
<td>1 mains feed 3-pole GST18i3, black</td>
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<tr>
<td></td>
<td></td>
<td>1 bus feed 2-pole, BST14i2, green</td>
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</tbody>
</table>
Power supply module 3-phase

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 230/400 V; 3 x 16 A
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

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 230 V; 16 A
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

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<td>2 plugs, each for 4 inputs 5-pole GST15i5, light blue</td>
</tr>
</tbody>
</table>

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 (2×4), non-isolated 12 V SELV
  - width: 95mm mounted (105mm with left cover)
  - height: 149mm incl. plug lock
  - depth: 44mm without top-hat rail
- **Dimensions**
  - width: 130mm mounted (140mm with left cover)
  - height: 149mm incl. plug lock
  - depth: 44mm without top-hat rail

### Switching outputs 4-fold

<table>
<thead>
<tr>
<th>Type</th>
<th>Std.Pack</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis FLEX-8/0 (12)</td>
<td>10</td>
<td>83.020.0623.0</td>
</tr>
<tr>
<td>without plug set</td>
<td></td>
<td></td>
</tr>
<tr>
<td>gesis FLEX-8/0 (12) Z</td>
<td>1</td>
<td>83.020.0623.1</td>
</tr>
<tr>
<td>with plug set</td>
<td></td>
<td>4 outputs 3-pole GST18i3, black</td>
</tr>
</tbody>
</table>

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
  - width: 130mm mounted (140mm with left cover)
  - height: 149mm incl. plug lock
  - depth: 44mm without top-hat rail
- **Dimensions**
  - surface-mounted on TH35 mounting rail, system-compatible mounting frame or flat mounting surface extension modules from the *gesis FLEX* series

- **Installation**
  - surface-mounted on TH35 mounting rail, system-compatible mounting frame or flat mounting surface extension modules from the *gesis FLEX* series

### Accessory

- **Accessories**
  - extension modules from the *gesis FLEX* series
### Sunblind outputs 230 V AC 2-fold

<table>
<thead>
<tr>
<th>Type</th>
<th>Std Pack</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis FLEX-0/2W without plug set</td>
<td>10</td>
<td>83.020.0624.0</td>
</tr>
<tr>
<td>gesis FLEX-0/2W Z with plug set</td>
<td>1</td>
<td>83.020.0624.1</td>
</tr>
</tbody>
</table>

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  
deepth: 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

<table>
<thead>
<tr>
<th>Type</th>
<th>Std Pack</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis FLEX-REG4</td>
<td>1</td>
<td>83.020.0600.0</td>
</tr>
</tbody>
</table>

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**
rail-mounted devices according to DIN 43880  
height / width / depth 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  
deepth: 80 mm without top-hat rail

**Installation**
Surface-mounted on TH35 mounting rail, system-compatible mounting frame or flat mounting surface
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
- Rail-mounted devices according to DIN 43880
- Height / width / depth: 90 mm (crossways to the mounting 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

### Cable entries
- For cable diameter 5–9 mm: 2 x; 7–13 mm: 1 x
- 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

### Dimensions
- Width: 130 mm mounted (140 mm with left cover)
- Height: approx. 173 mm incl. screw fittings
- Depth: 94 mm without top-hat rail

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

### Feed
- Mains from the preceding module can be tapped internally

### Through-wiring
- Mains and bus routing from preceding module to next module

### Cable entries
- For cable diameter 5–9 mm: 2 x; 7–13 mm: 1 x
- Width: 130 mm mounted (140 mm with left cover)
- Height: approx. 173 mm incl. screw fittings
- Depth: 84 mm without top-hat rail
- Surface-mounted on TH35 mounting rail, system-compatible mounting frame or flat mounting surface

### Dimensions
- 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
System extensions mains

<table>
<thead>
<tr>
<th>Type</th>
<th>Std</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mains extension 0.5 m</td>
<td>1</td>
<td>91.257.0600.2</td>
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<tr>
<td>Mains extension 1.0 m</td>
<td>1</td>
<td>91.257.1000.2</td>
</tr>
</tbody>
</table>

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: 230/400 V
- Nominal current: 3 x 16 A
- Connector system: GST15i5 white
- Installation: insert and lock with the gesis FLEX modules

System extensions bus

<table>
<thead>
<tr>
<th>Type</th>
<th>Std</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus extension 0.5 m</td>
<td>1</td>
<td>98.400.9999.8</td>
</tr>
<tr>
<td>Bus extension 1.0 m</td>
<td>1</td>
<td>98.401.9999.8</td>
</tr>
</tbody>
</table>

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

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

<table>
<thead>
<tr>
<th>Number of modules and suggested length of the mounting frame</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Base module + covers</strong></td>
</tr>
<tr>
<td><strong>Binary input or intermediate feed</strong></td>
</tr>
<tr>
<td><strong>Switching, sunblind or DIN rail housing</strong></td>
</tr>
<tr>
<td><strong>Mounting frame length in cm</strong></td>
</tr>
<tr>
<td><strong>Order number</strong></td>
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<td>196 mm</td>
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</tbody>
</table>
Installation column

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 EIB RM for sunblinds and lighting
  • gesis EIB RM for coupling of push-buttons
  • loudspeakers and so on
- Presence detectors for constant light control

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
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.

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.

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!

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

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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

Type A

Type A and type B height compensation cover plate:
■ 170 – 250 mm
■ 230 – 340 mm
■ 320 – 470 mm

Upper mounting section Type A: approx. 955 x 360 x 130 mm
Your fixtures:

Type A: Upper door with recess for e.g. telephone, internal dimensions approx. 270 x 360 x 130 mm

Type A and type B: Middle mounting section approx. 185 x 360 x 130 mm in two rows for e.g. a maximum of 2 x 4 hollow wall boxes

Type A and type B:
Bottom door with mounting section behind it for 4 top-hat rails, each 4 x 16 module width approx. 555 x 360 x 130 mm:
– 2 rail-mounted devices
– 2 for rail terminal blocks or similar

Your fixtures:

Type A and type B: Middle mounting section approx. 185 x 360 x 130 mm in two rows for e.g. a maximum of 2 x 4 hollow wall boxes

Type A and type B: Fixed base approx. 160 x 450 x 130 mm

Type B

Upper mounting section Type B: approx. 575 x 360 x 130 mm
Your fixtures:

Type B: Upper door with mounting section behind it for 5 top-hat rails (5x16 module width) approx. 680 x 360 x 130 mm:
– 3 rail-mounted devices
– 2 for rail terminal blocks or similar

Your fixtures:

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)
- 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

### Protective devices
- Number of poles: □
- Nominal current: □

### Building automation
- KNX
- LON

### Number of binary inputs
- floating
- radio (EnOcean)

### Lighting
- Type of lighting control
- Number of groups

### Sunblind / blackout
- Type of control
- Number and groups

### Heating control
- Type of regulation
- Number of outputs
- Voltage used

### Overvoltage protection
- Switches or contactors
- Main switch
- Residual current circuit breaker (40 A, 30 mA)
- Line circuit breaker (type B)
- Switches or contactors
- Bus
- Main switch
- Residual current circuit breaker (40 A, 30 mA)
- Line circuit breaker (type B)
- Overvoltage protection
- Number of poles: □
- Nominal current: □

### 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**
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 subordinary 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
**gesis® KNX**

**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** EIB M2 and **gesis** EIB RM device series, push-button interfaces can be used as well.

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**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**

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.

---

**General**

<table>
<thead>
<tr>
<th>KNX voltage supply / mA</th>
<th>160</th>
<th>320</th>
<th>540</th>
</tr>
</thead>
<tbody>
<tr>
<td>KNX voltage supply</td>
<td></td>
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<tr>
<td>KNX interfaces</td>
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<tr>
<td>USB c-to-TP</td>
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<td></td>
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<tr>
<td>Line/bandstop coupler TP/TP</td>
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<tr>
<td>IP Router TP/LAN IP</td>
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<tr>
<td>DALI Gateway/DALI/TP</td>
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<tr>
<td>Presence detectors and constant light</td>
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<tr>
<td>Motion detection</td>
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<tr>
<td>Standard/room thermostat</td>
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<td>Fan coil room thermostat</td>
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<tr>
<td>Fan coil output</td>
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</table>

<table>
<thead>
<tr>
<th>Type of installation</th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Continuous, direct KNX-TP connection</td>
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<tr>
<td>2-point electrothermal / voltage</td>
<td>28</td>
<td>323</td>
<td></td>
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<tr>
<td>Adapter ring Sxx</td>
<td>78</td>
<td>95</td>
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</tr>
<tr>
<td>Push-button linkages / number of inputs</td>
<td>4</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>SHW roller installation / MW</td>
<td>2</td>
<td>4</td>
<td>4</td>
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<tr>
<td>On / In outlet socket</td>
<td>4</td>
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<tr>
<td>Installation hole, 64 mm diameter</td>
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<td>KNX</td>
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<tr>
<td>DALI</td>
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</tbody>
</table>

* The devices can be found in the gesis EIB Y or gesis LON catalog sections.

**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 EIB RM 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, gesis KNX RTR SP
- 2 x presence detectors, gesis KNX PCO
- 2 x push-button interfaces 6-fold, gesis KNX TA 6/4
- 4 x continuous actuator with binary input, gesis KNX TH S
- 1 x base module KNX, gesis EIB RM2 BAS
- 1 x voltage supply, gesis RM-PS
- 2 x switching/dimming output, gesis RM-0/2 SD
- 1 x sunblind output, gesis RM-0/2 SI

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

Type: gesis KNX P CO
Part No.: 83.020.1400.0

**Electrical data:**
- Infeed: KNX TP1
- Bus coupling unit: integrated
- Detection range: horizontally 360°, vertically 120°
- Mixed light measurement: 10 Lux – 1500 Lux
- Maximum detection range: 8 m x 8 m (installation height 3.5 m), 6 m x 6 m (installation height 2.5 m)
- Detection range for a seated person: 4.5 m x 4.5 m (installation height 3 m)
- Ambient temperature: 0°C to +50°C

**Mechanical data:**
- Installation: in in-wall outlet box 55mm
- Dimensions: approx. 103 x 103 mm with a height of 33 mm
- Degree of protection: IP40

Motion detector

Type: gesis KNX M 331
Part No.: F0.000.0032.2

**Electrical data:**
- Infeed: KNX TP1
- Bus coupling unit: integrated
- Detection range: 7 m (installation height 2.8 m)
- Light measurement: 0 Lux - 700 Lux
- Ambient temperature: -5°C to +45°C

**Mechanical data:**
- Installation: 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

Type: DALI Gateway N141
Part No.: F0.000.0017.3

**Electrical data:**
- Infeed: bus/main power supply
- Bus connection: KNX TP1 / 110 – 240V AC/DC max. 7W
- Terminal block and data rail: approx. 16 V max. 64 DALI EBs
- Output - DALI: approx. 10 W max. 64 DALI EBs

**Mechanical data:**
- Installation: DIN rail mount device for TH 35
- Width: 4 MW (72 mm)
Room thermostat

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.

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis KNX RTR SP</td>
<td>F0.000.0032.0</td>
</tr>
</tbody>
</table>

**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: IP 20

Constant valve control

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.

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis KNX TH S</td>
<td>F0.000.0032.1</td>
</tr>
</tbody>
</table>

**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. 7.5 mm; <20 s/mm; 120 N
- Applicable valves: Danfoss RA, Heimeier, MNG, Schlösser from 3/93, Honeywess Braukmann, Dumser (distribution units), Reich (distribution units), Landis & Gyr, Oventropp, Herb, Onda
- Degree of protection: IP 21
- Dimensions: 82 x 50 x 65 mm

Fan coil room thermostat

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.

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis KNX RTR FC</td>
<td>F0.000.0032.7</td>
</tr>
</tbody>
</table>

**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: IP 20

Fan coil output 1 – 3 levels

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.

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis KNX FC 1-3</td>
<td>F0.000.0032.8</td>
</tr>
</tbody>
</table>

**Electrical data:**
- Infeed – bus/main power supply: KNX TP1 / 230V
- Outputs – valves: 24 – 230 V AC 0.5 A
- Outputs – fans: 230 V AC 8 A
- Inputs: potential-free

**Mechanical data:**
- Installation: DIN rail mount device for TH35
- Width: 4 MW (72 mm)
- Degree of protection: IP 20

31
Valve control, 2-level control, 230 V

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis TH P230</td>
<td>F.000.0032.3</td>
</tr>
</tbody>
</table>

**Electrical data:**
- Operating voltage: 230 V AC 50/60 Hz
- Operating power: 1.8 W
- Starting current: 300 mA for max. 200 ms, 250 mA for max. 2 min

**Mechanical data:**
- Connection cable: approx. 1 m
- Pluggable with gesis: pre-assembly on request
- Closing/opening times: approx. 2.5 min (valve is closed without applying any power)
- Valve stroke: 4 mm; 100 N;
- Adapter: order separately
- Degree of protection: IP54
- Dimensions: 60 x 44 x 61 mm

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.

Valve control, 2-level control, 24 V

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis TH P24</td>
<td>F.000.0032.6</td>
</tr>
</tbody>
</table>

**Electrical data:**
- Infeed: 24 V 0 – 60 Hz
- Operating power: 1.8 W
- Starting current: 300 mA for max. 200 ms, 250 mA for max. 2 min

**Mechanical data:**
- Connection cable: approx. 1 m
- Pluggable with gesis: pre-assembly on request
- Closing/opening times: approx. 2.5 min (valve is closed without applying any power)
- Valve stroke: 4 mm; 100 N;
- Adapter: order separately
- Degree of protection: IP54
- Dimensions: 60 x 44 x 61 mm

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.

Valve adapter ring VA78

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
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</thead>
<tbody>
<tr>
<td>gesis TH VA78</td>
<td>F.000.0032.4</td>
</tr>
</tbody>
</table>

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.

**Mechanical data:**
- Applicable valves: Danfoss RA

Valve adapter ring VA80

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis TH VA80</td>
<td>F.000.0032.5</td>
</tr>
</tbody>
</table>

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.

**Mechanical data:**
- Applicable valves: Onda, Schlösser 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.

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis KNX TA 2/2</td>
<td>83.020.1404.0</td>
</tr>
</tbody>
</table>

**Electrical data:**
- Infeed: KNX TP1
- Inputs: 2 for potential-free contacts
- Scanning voltage: 3.3V / 0.5mA
- Outputs: 2 when configured as LED
- Output current: low current 1mA (LED 1mA types)
- Operating temperature: -5°C to +45°C

**Mechanical data:**
- Installation: in-wall outlet box
- Cable length: 25 cm, extendable to max. 5 m
- Dimensions: 37 x 37 x 10 mm

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.

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis KNX TA 4/4</td>
<td>83.020.1405.0</td>
</tr>
</tbody>
</table>

**Electrical data:**
- Infeed: KNX TP1
- Inputs: 4 for potential-free contacts
- Scanning voltage: 3.3V / 0.5mA
- Outputs: 4 when configured as LED
- Output current: low current 1mA (LED 1mA types)
- Operating temperature: -5°C to +45°C

**Mechanical data:**
- Installation: in-wall outlet box
- Cable length: 25 cm, extendable to max. 5 m
- Dimensions: 37 x 37 x 10 mm

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.

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis KNX TA 6/4</td>
<td>83.020.1406.0</td>
</tr>
</tbody>
</table>

**Electrical data:**
- Infeed: KNX TP1
- Inputs: 6 for potential-free contacts
- Scanning voltage: 3.3V / 0.5mA
- Outputs: 4 when configured as LED
- Output current: low current 1mA (LED 1mA types)
- Operating temperature: -5°C to +45°C

**Mechanical data:**
- Installation: in-wall outlet box
- Cable length: 25 cm, extendable to max. 5 m
- Dimensions: 37 x 37 x 10 mm
Power supply unit KNX 160 mA

Type: gesis KNX PS160
Part No.: 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 TH 35
- Width: 4 MW (72 mm)

Power supply unit KNX 320 mA

Type: gesis KNX PS320
Part No.: 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

Power supply unit KNX 640 mA

Type: gesis KNX PS640
Part No.: 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 TH 35
- Width: 4 MW (72 mm)

USB interface

Type: gesis KNX USB
Part No.: 83.020.1418.0

Electrical data:
- Infeed KNX: through the line
- Bus connection KNX: terminal block
- Infed USB: via PC
- Connection USB: USB socket type B, max. 5m

Mechanical data:
- Installation: DIN rail mount device for TH 35
- Width: 2 MW (36 mm)
**Line/backbone coupler**

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.

<table>
<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>

**Electrical data:**
- Primary line: DC 24 (for device supply)
- Secondary line: DC 24V

**Mechanical data:**
- Installation: DIN rail mount device for TH35
- Width: 2 MW (36 mm)

**IP router**

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).

<table>
<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>

**Electrical data:**
- Infeed: 12 – 24V AC or 12 – 30V DC, alternatively Power-over-Ethernet
- Power consumption: < 800 mW
- Bus connection: terminal block
- Ethernet connection: LAN socket RJ45

**Mechanical data:**
- Installation: DIN rail mount device for TH35
- Width: 2 MW (36 mm)

**Surge arrester KNX TP**

The type 2 arrester with KNX certification for KNX-TP systems has been tested according to EN61643-21. It can directly replace the terminal block on KNX devices. The 200mm earthing conductor is connected directly to the device.

<table>
<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>

**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)
- Bus connection: cables Ø 0.8 mm/200 mm long
- Ground connection: cables 0.75 mm² /200 mm long

**Mechanical data:**
- Cables: 12 x 11 x 11
- Length approx. 200 mm

**KNX connection module**

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.

<table>
<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>

**Electrical data:**
- KNX: Twisted Pair (SELV)
- Nominal current: 3A
- Connection type: terminal block (under distributor cover) pluggable to outside (BST 14/2)

**Mechanical data:**
- Installation: on TH35 e.g. in distributors
- Width: 2 pitch units (36 mm)

**Accessories:**
- Connectors: BST 14/2 e.g. 93.422.0553.1
European Court of Justice in Luxembourg

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

The following devices are used:
- *gesis* EIB RM base module for managing the extension modules
- *gesis* EIB RM sunblind modules 230 V AC and 24 V DC for sunblind and shade control
- *gesis* EIB RM switching application for lighting control
- Cable assemblies and connectors
The *gesis*® 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*® 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 <55mm
- 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
Office with heating/cooling system with gesis® EIB RM

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

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
- 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.
### 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.

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis EIB RM2-BAS</td>
<td>83.020.0400.3</td>
</tr>
</tbody>
</table>

**Infeed:**
- Supply: 12 V DC from gesis RM-PS
- Bus: 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.

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis LON RM2-BAS</td>
<td>83.020.0300.3</td>
</tr>
</tbody>
</table>

**Infeed:**
- Supply: 12 V DC from gesis RM-PS
- Bus: LON (FTT 10A transceiver)

**Outputs:**
- 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.

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis RM-PS</td>
<td>83.020.0401.0</td>
</tr>
</tbody>
</table>

**Infeed:**
- Supply: 230 V AC

**Output:**
- 12.5 V DC SELV / 160 mA 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.

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis RM-PS 12/5</td>
<td>83.020.0421.0</td>
</tr>
</tbody>
</table>

**Infeed:**
- Supply: 230 V AC

**Output:**
- 12.5 V DC SELV / 400 mA 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.

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis RM-B/0 (12)</td>
<td>83.020.0402.0</td>
</tr>
</tbody>
</table>

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).

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis RM-16/0 (RC)</td>
<td>83.020.0408.0</td>
</tr>
</tbody>
</table>

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 2.5 m connection cable.

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antenna</td>
<td>83.020.0503.0</td>
</tr>
</tbody>
</table>

Antenna
- 868.3 MHz antenna
  - fastened with magnetic foot
  - incl. approx. 2.5 m 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.

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis RM-0/4</td>
<td>83.020.0403.0</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis RM-0/2W SI</td>
<td>83.020.0404.0</td>
</tr>
</tbody>
</table>

Infeed:
Supply 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 / 5AT 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.

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis RM-0/2W DC</td>
<td>83.020.0407.0</td>
</tr>
</tbody>
</table>

Infeed:
Supply 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.

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis RM-0/2SD</td>
<td>83.020.0405.0</td>
</tr>
</tbody>
</table>

Infeed:
Supply 230V AC for supply of the electronic 230V AC (Switching voltage for outputs) Pluggable flat cable on the front panel

Outputs:
Quantity 2
Main power supply potential-free contacts for 230V; 16A
Control output 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.

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis RM-0/2D</td>
<td>83.020.0409.0</td>
</tr>
</tbody>
</table>

Infeed:
Supply 230V AC (main supply voltage to be dimmed) pluggable flat cable on the front panel

Outputs:
Quantity 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.

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis RM-0/2DA</td>
<td>83.020.0410.0</td>
</tr>
</tbody>
</table>

**Infeed:**
- Supply: 230V AC
- from the base module: 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.

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis RM-0/4 (HL)</td>
<td>83.020.0406.0</td>
</tr>
</tbody>
</table>

**Infeed:**
- Supply: switching voltage for the outputs
- from the base module: 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.

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis RM-0/4 HL AC</td>
<td>83.020.0411.0</td>
</tr>
</tbody>
</table>

**Infeed:**
- Supply: switching voltage for the outputs
- from the base module: 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.

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis RM-0/4 HL DC</td>
<td>83.020.0412.0</td>
</tr>
</tbody>
</table>

**Infeed:**
- Supply: switching voltage for the outputs
- from the base module: pluggable flat cable on the front panel

**Outputs:**
- 4, semiconductor outputs
- 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)
- Height: 31 (daisy-chained extension module)
- 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 TH 35 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

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<td>gesis EIB M2 base module</td>
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<td>gesis EIB M2 daisy-chained extension module</td>
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<td>gesis EIB M2 sunblind output</td>
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<td>gesis EIB M2 phase selector/pusher</td>
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<td>gesis EIB M2 firmly assigned phase conductor</td>
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<td>gesis EIB M2 5-pole GST 18i5 black</td>
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<td>gesis EIB M2 5-pole GST 18i5 light blue</td>
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<td>gesis EIB M2 3-pole GST 18i3 black</td>
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<td>gesis EIB M2 4-pole GST 18i4 black</td>
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<td>gesis EIB M2 5-pole GST 18i5 pastel blue</td>
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</tbody>
</table>

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

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**Note:**
- 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® EIB M2 device system is used. The switches are connected to gesis® EIB M2 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® EIB M2-BAS
- 2 x binary input 24 V: gesis® EIB M2-4/0 (24)
- 2 x power switch: gesis® EIB M2-0/2
- 2 x sunblind output: gesis® EIB M2-0/1Wx2

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
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.

### Extension module 4-fold input 230 V AC

- The 230 V binary input can manage four independent potential-free contacts. The scanning voltage of 230 V AC is provided by the module.

<table>
<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>

### Infeed:
- Main power supply: 230/400 V~, 50..60 Hz, max. 16 A
- Bus: KNX

### Output:
- Internal bus for max. 6 extension modules
- 230/400 V main supply connection for the extension modules

### Input data:
- Quantity: 4
- Rated voltage: 230 V AC, coming from the module
- Cable length: max. 100 m

### Accessories:
- Base module: 83.020.1020.0

### Extension module 4-fold input 24 V DC

- The 24 V DC binary input can manage four independent potential-free contacts. The scanning voltage of 24 V DC SELV is provided by the module.

<table>
<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>

### Infeed:
- Main power supply: 230/400 V~, 50..60 Hz, max. 16 A
- Bus: KNX

### Output:
- Internal bus for max. 6 extension modules
- 230/400 V main supply connection for the extension modules

### Input data:
- Quantity: 4
- Rated voltage: 24 V DC, coming from the module
- Cable length: max. 100 m

### Accessories:
- Base module: 83.020.1020.0

### Extension module 2-fold power switch

- 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.

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis EIBM2-0/2</td>
<td>83.020.1023.0</td>
</tr>
</tbody>
</table>

### Infeed:
- Main power supply: 230/400 V~, 50..60 Hz, max. 16 A
- Bus: KNX

### Output:
- Internal bus for max. 6 extension modules
- 230/400 V main supply connection for the extension modules

### Input data:
- Quantity: 2
- Rated voltage: 230 V AC
- Switching current: max. 16 A ohmic load, high switching capacity

### Accessories:
- Base module: 83.020.1020.0
The sunblind output 1 x 2-fold for 230 V 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.

**Extension module 1 x 2-fold sunblind output**

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis EIB M2-0/1Wx2</td>
<td>83.020.1024.0</td>
</tr>
</tbody>
</table>

**Infeed:** via an upstream base or extension module

**Output data:**
- Quantity: 2 parallel uncoupled
- Rated voltage: 230 V AC
- Switching current: 8 A ohmic load

**Accessories:**
- Base module: 83.020.1020.0

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

**Extension module switching/dimming output**

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis EIB M2-0/SD</td>
<td>83.020.1026.0</td>
</tr>
</tbody>
</table>

**Infeed:** via an upstream base or extension module

**Output data:**
- Quantity: 1
- Main power supply: 230 V AC; 16 A ohmic load
- Switching output: 1 – 10 V (passive); max. 50 mA

**Accessories:**
- Base module: 83.020.1020.0
European headquarters of Eurotours in Austria / Kitzbühel

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

Modular devices for convenient integration of EnOcean sensors

**General**

The **gesis® EIB V** 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® EIB V** 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® EIB V** 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® EIB V** 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**
  - IP20
- **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.

### Functions

<table>
<thead>
<tr>
<th>Switching output</th>
<th>1</th>
<th>1</th>
<th>6</th>
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<tbody>
<tr>
<td>Switched output</td>
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</tr>
<tr>
<td>Switching/dimming output</td>
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<td>Radio input</td>
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</tbody>
</table>

### Connector/cable types

| Three-phase, 5-pole (GST 18i5 black) |
| Single-phase, 3-pole (GST 18i3 black) |
| 2-pole BST green |
| 2-pole BST green spaced |
| 3-pole GST 18i3 black |
| 4-pole GST 18i4 black |
| 5-pole GST 18i5 black |
| 5-pole GST 18i5 pastel blue |

* 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  gesiEIB V-0/2+1W
2 x KNX push-button interfaces, 4-fold  gesiKNX TA 4/4
### 2-fold sunblind output for complex sunblind controls

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesi EIB V-0/2W B</td>
<td>83.020.0221.0</td>
<td>Three-phase main supply connection (output A1 → L1; A2 → L2)</td>
</tr>
<tr>
<td>gesi EIB V-0/2W B SP</td>
<td>83.020.0221.4</td>
<td>Single-phase main supply connection (3-pole)</td>
</tr>
<tr>
<td>gesi EIB V-0/2W F SP</td>
<td>83.020.0222.4</td>
<td>Single-phase main supply connection Internal fuse 5 AT (3-pole)</td>
</tr>
</tbody>
</table>

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

**Infeed:**
- Supply/KNX: 230/400 V~ 50...60 Hz, max. 16 A; KNX

**Outputs:**
- Rated voltage: 230 V AC
- Switching current: max. 16 A ohmic load

### 4-fold switching output with increased functionality

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesi EIB V-0/4 B</td>
<td>83.020.0225.0</td>
<td>Three-phase main supply connection</td>
</tr>
<tr>
<td>gesi EIB V-0/4 B SP</td>
<td>83.020.0225.4</td>
<td>Single-phase main supply connection (3-pole)</td>
</tr>
</tbody>
</table>

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

**Infeed:**
- Supply/KNX: 230/400 V~ 50...60 Hz, max. 16 A; KNX

**Outputs:**
- Rated voltage: 230 V AC
- Switching current: max. 16 A ohmic load

### 6-fold switching output

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
<th>Description</th>
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<tbody>
<tr>
<td>gesi EIB V-0/6</td>
<td>83.020.0214.0</td>
<td>Three-phase main supply connection (output A1/A4 → L1; A2/A5 → L2; A3/A6 → L3)</td>
</tr>
</tbody>
</table>

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.

**Infeed:**
- Supply/KNX: 400 V~, 50...60 Hz, max. 16 A per phase conductor; KNX

**Outputs:**
- Connection: combined with three outputs in a 5 pole connector (e.g. A1, A2, A3, N, ground)
- Rated voltage: 230 V AC
- Switching current: max. 16 A ohmic load
Combined actuator with 2-fold switching and 1-fold sunblind output

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis EIB V-0/2+1W</td>
<td>83.020.0212.0</td>
<td>Three-phase main supply connection (output A1 → L1; A2 → L2; A3 → L3)</td>
</tr>
<tr>
<td>gesis EIB V-0/2+1W SP</td>
<td>83.020.0212.4</td>
<td>Single-phase main supply connection (3-pole)</td>
</tr>
</tbody>
</table>

Infeed: Supply/KNX 230/400 V~, 50..60 Hz, max. 16 A; KNX

Outputs:
- Rated voltage 230 V AC
- Switching current-switching output A1, A2 max. 16 A ohmic load
- Switching current-sunblind output A3 max. 8 A ohmic load

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

2-fold switching/dimming output

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis EIB V-0/2SD</td>
<td>83.020.0213.0</td>
<td>Three-phase main supply connection (output A1 → L1; A2 → L2)</td>
</tr>
<tr>
<td>gesis EIB V-0/2SD SP</td>
<td>83.020.0213.4</td>
<td>Single-phase main supply connection (3-pole)</td>
</tr>
</tbody>
</table>

Infeed: Supply/KNX 230/400 V~, 50..60 Hz, max. 16 A; KNX

Outputs:
- Rated voltage 230 V AC
- Control output 1 – 10 V / max. 50 mA (passive)

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.

EnOcean-KNX 56-fold gateway with 4 switching outputs

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis EIB V-56/4 RC</td>
<td>83.020.0220.0</td>
<td>Three-phase main supply connection (output A1 → L1; A2 → L2; A3/A4 → L3)</td>
</tr>
<tr>
<td>gesis EIB V-56/4 RCP</td>
<td>83.020.0220.1</td>
<td>Single-phase main supply connection (3-pole)</td>
</tr>
<tr>
<td>gesis EIB V-56/4 B RC</td>
<td>83.020.0220.2</td>
<td>3-phase main supply/antenna connection (output A1 → L1; A2 → L2; A3/A4 → L3)</td>
</tr>
<tr>
<td>gesis EIB V-56/4 B RCP</td>
<td>83.020.0220.3</td>
<td>Single-phase main supply/antenna connection (3-pole)</td>
</tr>
</tbody>
</table>

Infeed: Supply/KNX 230/400 V~, 50..60 Hz, max. 16 A; KNX

Outputs:
- Rated voltage 230 V AC
- Switching current max. 16 A ohmic load

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.

Antenna for EnOcean devices with external antenna

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antenna</td>
<td>83.020.0503.0</td>
<td></td>
</tr>
</tbody>
</table>

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 2.5 m connection cable.
Renovation of an office building
Sonnenstraße 14 in Munich

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

The following devices are used:
- *gesis LON RM* 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
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 < 55mm
- 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): 49 mm (2.7 MW)
- Height: 100 mm
- Depth incl. mounting rail TH 35 x 7.5: 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
- Housing color: black

Installation type
- 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

<table>
<thead>
<tr>
<th>Functions</th>
<th>83.020.0320.0</th>
<th>83.020.0300.3</th>
<th>83.020.0401.0</th>
<th>83.020.0421.0</th>
<th>83.020.0402.0</th>
<th>83.020.0408.0</th>
<th>83.020.0403.0</th>
<th>83.020.0404.0</th>
<th>83.020.0407.0</th>
<th>83.020.0405.0</th>
<th>83.020.0409.0</th>
<th>83.020.0410.0</th>
<th>83.020.0411.0</th>
<th>83.020.0412.0</th>
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<td>Management of x extension modules (wires on the base module)</td>
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<td>Binary inputs</td>
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<td>Switching outputs, 16A (relay)</td>
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<td>Switching outputs 230V/4A</td>
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<td>Switching/dimming output 230V / 1 – 10V</td>
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<td>Universal dimmer 2 x 250 V AC/DC load</td>
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<td>DALI output broadcast 2 x 8 EBs</td>
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<td>Semiconductor output 24 – 230 V AC/DC 0.5A</td>
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<td>Semiconductor output 230V AC 0.5A</td>
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<td>Semiconductor output 24VDC 0.5A</td>
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<td>Auxiliary voltage / supply 230 V</td>
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<td>Auxiliary voltage 12V RM power supply</td>
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<td>0.14 – 1.5 mm² solid (inputs)</td>
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<tr>
<td>0.14 – 1.0 mm² solid (inputs)</td>
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<tr>
<td>0.14 – 0.6 mm² solid</td>
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<tr>
<td>0.14 – 2.5 mm² fine stranded</td>
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<td>SMV 1/240V</td>
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</tbody>
</table>

58
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 gesisLON RM2-BAS
- 1 x power supply unit gesisRM-PS
- 1 x switching output 4-fold gesisRM-0/4
- 1 x sunblind output 2-fold gesisRM-0/2W SI
- 1 x EnOcean – LON gateway gesisLON R-56/0 (RC)
- 1 x antenna for radio input gesisRC Z ANT SMA
- Switches from the gesisRC program
- Window contact from the gesisRC 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® 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.

Infeed:
Supply: 12 V DC from gesis RM-PS
Bus: LON (FTT 10 A 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®

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.

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.

Infeed:
Supply: 12 V DC e.g. from gesis RM-PS; approx. 60 mA
Bus: LON (FTT 10 A transceiver)

Outputs:
Extension module: Quantity of 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 2.5 m connection cable.

Antenna: 83.020.0603.0

- 868.3 MHz antenna
- Fastened with magnetic foot
- Incl. approx. 2.5 m 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.

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis RM-PS</td>
<td>83.020.0401.0</td>
</tr>
</tbody>
</table>

**Infeed:**
Supply: 230 V AC
Output: 12.5 V DC SELV / 180 mA 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.

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis RM-PS 12/5</td>
<td>83.020.0421.0</td>
</tr>
</tbody>
</table>

**Infeed:**
Supply: 230 V AC
Output: 12.5 V DC SELV / 400 mA 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
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 an 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® EIB RM 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

(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.

<table>
<thead>
<tr>
<th>Functions</th>
<th>Switching output</th>
<th>Sunblind output</th>
<th>Dimming output (R, C load)</th>
<th>Binary input</th>
<th>Alarm input</th>
<th>Window position</th>
<th>Pushbuttons (number of buttons /function)</th>
<th>Gateway to</th>
<th>Reception display / field intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switching output</td>
<td>4</td>
<td>4</td>
<td>1</td>
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<td>Sunblind output</td>
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<td>Dimming output (R, C load)</td>
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<td>Pushbuttons (number of buttons /function)</td>
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</table>

### Properties

- **Plugable connections with gesis CON**
- **Screw terminals**
- **External antenna**
- **Surface mounting**
- **Box mounting**
- **DIN rail mounting**
- **Frames from the Wieland product range**
- **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
- 1 x sunblind output, 2-fold
- 2 x pushbuttons 2 channels
- 2 x pushbuttons 4 channels

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
- 1 x antenna for alarm sender
- 1 x push-button, 2 channels

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

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis RCV-0/4 1PH</td>
<td>1-phase main supply</td>
</tr>
<tr>
<td>gesis RCV-0/4 B 1PH</td>
<td>1-phase main supply/antenna connection</td>
</tr>
</tbody>
</table>

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): 254/121/32 mm

Connection and supply components are available in the gesis section.

Sunblind output, 2-fold

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis RCV-0/2WALT1PH</td>
<td>1-phase main supply</td>
</tr>
<tr>
<td>gesis RCV-0/2WALB1PH</td>
<td>1-phase main supply/antenna connection</td>
</tr>
</tbody>
</table>

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): 254/121/32 mm

Connection and supply components are available in the gesis section.

Switching outputs for outdoors

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 12V/LED 1 LED control unit 12V/12W, 1 feed-through wiring | 83.020.0901.0 |
- gesis RSTPSU 24V/LED 1 LED control unit 24V/12W, 1 feed-through wiring | 83.020.0901.0 |
- gesis RSTPSU 12V/70W 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 350mA/12W, 1 feed-through wiring | 83.020.0902.0 |
- gesis RSTPSI 700/12 LED 1 LED control unit 700mA/12W, 1 feed-through wiring | 83.020.0903.0 |
Switching and dimming output with GST 18i3 connection

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis RCZW-0/1</td>
<td>1 relay output</td>
</tr>
<tr>
<td>gesis RCZW-0/1D</td>
<td>1 dimming output</td>
</tr>
</tbody>
</table>

**Infeed:**
- Power input: 230V AC/16A
- Connector: GST 1B3
- Coding: black

**Outputs:**
- Quantity: 1
- Connection type: connector GST 1B3 coding black
- Rated voltage: 230V AC
- Switching capacity: 5A ohmic load
- Dimming load: F0.000.0016.9

**General data:**
- Degree of protection: IP 20
- Dimensions: length/width/height: 53/118/35 mm

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.

Switching output with 1 channel

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis RCUP-0/1</td>
<td>83.020.0506.0</td>
</tr>
</tbody>
</table>

**Infeed:**
- Power input: 230V AC / 16A screw clamp terminals

**Outputs:**
- Quantity: 1
- Connection type: screw clamp terminals
- Rated voltage: 230V AC
- Switching capacity: 5A ohmic load

**General data:**
- Degree of protection: IP 20
- Dimensions: length/width/height: 48/29/35 mm

The small design enables installation in in-wall outlet boxes or surface mount.

Alarm transmitter for sunblind control and binary input

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis RCR-16/0</td>
<td>83.020.0502.0</td>
</tr>
</tbody>
</table>

**Infeed:**
- Voltage: 24V DC ± 20%
- Current: 35mA

**Inputs:**
- Quantity: 8 x alarm inputs, 8 x binary inputs

**General data:**
- Installation: on DIN rail TH 35
- Degree of protection: IP 20
- Dimensions (width): approx. 6 MW (93 mm)

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.

The standard inputs send defined EnOcean telegrams equivalent to the radio switches.

Window contact

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis RC S-SRWSENFK</td>
<td>F0.000.0009.0</td>
</tr>
</tbody>
</table>

**Supply:**
- Solar cells: min. brightness 100 Lux (best from 400 Lux)
- Power reserve: min. 14 hours fully charged

**General data:**
- Color: signal white similar to RAL 9003
- Dimensions (length/width/height): 110/19/15mm
- Contact connector: magnet 23/14/8mm
- Installation: surface

Batteryless and maintenance-free window contact with integrated power buffer for night operation.
EnOcean-KNX 56-fold gateway with 4 switching outputs

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis EIB V-56/4 RC</td>
<td>83.020.020.0</td>
</tr>
<tr>
<td>Three-phase main supply connection</td>
<td>(output A1 → L1; A2 → L2; A3/A4 → L3)</td>
</tr>
<tr>
<td>gesis EIB V-56/4 RCSP</td>
<td>83.020.020.1</td>
</tr>
<tr>
<td>Single-phase main supply connection</td>
<td>(3-pole)</td>
</tr>
<tr>
<td>gesis EIB V-56/4 B RC</td>
<td>83.020.020.2</td>
</tr>
<tr>
<td>Three-phase main supply/antenna conn.</td>
<td>(output A1 → L1; A2 → L2; A3/A4 → L3)</td>
</tr>
<tr>
<td>gesis EIB V-56/4 B RCSP</td>
<td>83.020.020.3</td>
</tr>
<tr>
<td>Single-phase main supply/antenna conn.</td>
<td>(3-pole)</td>
</tr>
</tbody>
</table>

Infeed:
- Main power supply/KNX: 230/400 V~, 50..60 Hz, max. 16 A; KNX
- Outputs: 4, can be controlled separately
- Rated voltage: 230 V AC
- Switching current: max. 16 A ohmic load

Accessories:
- Antenna: Part No. 83.020.0503.0

EnOcean-LON gateway

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis LON R-56/0 (RC)</td>
<td>83.020.0320.0</td>
</tr>
</tbody>
</table>

Infeed:
- Supply: 12 V DC e.g. from gesis RM PS; approx. 60 mA
- Bus: LON (FTT 10A 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

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis RM-16/0 (RC)</td>
<td>83.020.0408.0</td>
</tr>
</tbody>
</table>

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: Part No. 83.020.0603.0
- KNX base module: 83.020.0600.3
- LON base module: 83.020.0300.3

Handheld radio transmitter, 4 channels

<table>
<thead>
<tr>
<th>Type</th>
<th>Color</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Handheld radio transmitter</td>
<td>similar to RAL 9010</td>
<td>F0.000.0009.1</td>
</tr>
<tr>
<td>Handheld radio transmitter</td>
<td>similar to RAL 9005</td>
<td>F0.000.0009.2</td>
</tr>
<tr>
<td>Handheld radio transmitter</td>
<td>silver finish</td>
<td>F0.000.0009.3</td>
</tr>
</tbody>
</table>

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

Handheld radio transmitter
- Batteryless and maintenance-free
- For stick-on surface mounting or as handheld remote control
Convenient hand-held transmitter

The convenient hand-held transmitter allows for control of the complete building. Whether complex lighting concepts or comprehensive actions according to a detailed schedule: this hand-held terminal lets you program building functions in the twinkling of an eye. Menu navigation is intuitive and is supported by easily understandable symbols. Additionally, the device offers service functions for the installer regarding range planning and can be used for function testing during commissioning.

Technical data:
- Radio channels: 512
- Configurable levels: 32
- Displays: time, date, temperature
- Texts and symbols: pre-defined or configurable
- Lock: with PIN code
- Timers: 32
- Speed dial keys: 8
- Dimensions (length/width/height): 165/55/21 mm
- Special EnOcean function: EnOcean service function, e.g. ID display, quality of radio signals, and a radio link test (enables range test between two hand-held terminals)

Power supply:
- Supply with batteries: 3 AAA-NiMH power packs (included in delivery)
- Charging device: USB charging device and separate USB cable (included in delivery)

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. These 55x55 mm switches enable installation in various designs of various manufacturers.

### Multivendor radio switch, 2/4 channels

<table>
<thead>
<tr>
<th>Type</th>
<th>Color</th>
<th>Part No.</th>
<th>Marking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio switch, 2 channels</td>
<td>white</td>
<td>F0.000.0056</td>
<td>I / O</td>
</tr>
<tr>
<td></td>
<td>anthracite</td>
<td>F0.000.0075</td>
<td>I / O</td>
</tr>
<tr>
<td></td>
<td>aluminum finish</td>
<td>F0.000.0078</td>
<td>I / O</td>
</tr>
<tr>
<td>Radio switch, 2 channels</td>
<td>white</td>
<td>F0.000.0056</td>
<td>▲▼</td>
</tr>
<tr>
<td></td>
<td>anthracite</td>
<td>F0.000.0075</td>
<td>▲▼</td>
</tr>
<tr>
<td></td>
<td>aluminum finish</td>
<td>F0.000.0078</td>
<td>▲▼</td>
</tr>
<tr>
<td>Radio switch, 4 channels</td>
<td>white</td>
<td>F0.000.0057</td>
<td>I / O</td>
</tr>
<tr>
<td></td>
<td>anthracite</td>
<td>F0.000.0079</td>
<td>I / O</td>
</tr>
<tr>
<td></td>
<td>aluminum finish</td>
<td>F0.000.0080</td>
<td>I / O</td>
</tr>
<tr>
<td>Radio switch, 4 channels</td>
<td>white</td>
<td>F0.000.0059</td>
<td>▲▼</td>
</tr>
<tr>
<td></td>
<td>anthracite</td>
<td>F0.000.0081</td>
<td>▲▼</td>
</tr>
<tr>
<td></td>
<td>aluminum finish</td>
<td>F0.000.0082</td>
<td>▲▼</td>
</tr>
</tbody>
</table>

- batteryless and maintenance-free
- for mounting on flat surfaces with screws or adhesive pads (included in delivery)
- the radio switches fit the following frames with 55mm installation size following vendors:
  - Berker: S1, B1, B3, B7 Glas
  - Gira: Standard 55, E2, Event, Esprit
  - Jung: A500, A plus
  - Merten: M-Smart, M-Arc, M-Plan

- Multivendor radio switches with 2/4 channels (light) (I / O)
- the rockers are imprinted with I/O symbols
- Multivendor radio switches with 2/4 channels [sunblind] (Up / Down) (▲▼)
- the rockers are imprinted with Up/Down (▲▼) symbols
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.

<table>
<thead>
<tr>
<th>Type</th>
<th>Color</th>
<th>Part No.</th>
<th>Marking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio switch, 2 channels</td>
<td>pure white</td>
<td>F.000.0025.0</td>
<td>1/0</td>
</tr>
<tr>
<td></td>
<td>pure white</td>
<td>F.000.0025.2</td>
<td>▲▼</td>
</tr>
<tr>
<td></td>
<td>piano black</td>
<td>F.000.0025.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>piano black</td>
<td>F.000.0025.9</td>
<td>1/0</td>
</tr>
<tr>
<td></td>
<td>piano black</td>
<td>F.000.0026.1</td>
<td>▲▼</td>
</tr>
<tr>
<td></td>
<td>piano black</td>
<td>F.000.0026.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>aluminum</td>
<td>F.000.0026.8</td>
<td>1/0</td>
</tr>
<tr>
<td></td>
<td>aluminum</td>
<td>F.000.0027.0</td>
<td>▲▼</td>
</tr>
<tr>
<td></td>
<td>aluminum</td>
<td>F.000.0027.2</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type</th>
<th>Color</th>
<th>Part No.</th>
<th>Marking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio switch, 4 channels</td>
<td>pure white</td>
<td>F.000.0025.1</td>
<td>1/0</td>
</tr>
<tr>
<td></td>
<td>pure white</td>
<td>F.000.0025.3</td>
<td>▲▼</td>
</tr>
<tr>
<td></td>
<td>piano black</td>
<td>F.000.0025.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>piano black</td>
<td>F.000.0026.0</td>
<td>1/0</td>
</tr>
<tr>
<td></td>
<td>piano black</td>
<td>F.000.0026.2</td>
<td>▲▼</td>
</tr>
<tr>
<td></td>
<td>piano black</td>
<td>F.000.0026.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>aluminum</td>
<td>F.000.0026.9</td>
<td>1/0</td>
</tr>
<tr>
<td></td>
<td>aluminum</td>
<td>F.000.0027.1</td>
<td>▲▼</td>
</tr>
<tr>
<td></td>
<td>aluminum</td>
<td>F.000.0027.3</td>
<td></td>
</tr>
</tbody>
</table>

* 2 channels represent one rocker in neutral center position. This function is defined in the receiver.
* 4 channels represent two rockers in neutral center position. This function is defined in the receiver.
– 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 | F.000.0024.6 |
Hotel Card switch | piano black | F.000.0024.7 |
Hotel Card switch | aluminum | F.000.0024.8 |

Energy supply:
Energy self-sufficient
Installation:
Dimensions: Hotel Card 55 x 85 mm (standard dimensions)

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

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repeater</td>
<td>F0.000.0024.5</td>
</tr>
</tbody>
</table>

### Power supply:
- Rated voltage: 230V AC
- Installation: in-wall outlet box or surface mount
- Installation option: 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.

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antenna</td>
<td>83.020.0503.0</td>
</tr>
</tbody>
</table>

### Antenna
- 868.3 MHz 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.

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio switch, 2 channels</td>
<td>white</td>
</tr>
<tr>
<td></td>
<td>aluminum finish</td>
</tr>
<tr>
<td></td>
<td>F0.000.0002.1</td>
</tr>
<tr>
<td></td>
<td>white</td>
</tr>
<tr>
<td></td>
<td>aluminum finish</td>
</tr>
<tr>
<td></td>
<td>F0.000.0004.4</td>
</tr>
<tr>
<td>Radio switch, 4 channels</td>
<td>white</td>
</tr>
<tr>
<td></td>
<td>aluminum finish</td>
</tr>
<tr>
<td></td>
<td>F0.000.0002.3</td>
</tr>
<tr>
<td></td>
<td>white</td>
</tr>
<tr>
<td></td>
<td>aluminum finish</td>
</tr>
<tr>
<td></td>
<td>F0.000.0004.8</td>
</tr>
<tr>
<td></td>
<td>white</td>
</tr>
<tr>
<td></td>
<td>aluminum finish</td>
</tr>
<tr>
<td></td>
<td>F0.000.0002.4</td>
</tr>
</tbody>
</table>

- 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
- the rockers are imprinted with Up/Down (▲▼) symbols

<table>
<thead>
<tr>
<th>Combination frame 1-fold</th>
<th>white</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>aluminum finish</td>
</tr>
<tr>
<td></td>
<td>F0.000.0002.5</td>
</tr>
<tr>
<td>Combination frame 2-fold</td>
<td>white</td>
</tr>
<tr>
<td></td>
<td>aluminum finish</td>
</tr>
<tr>
<td></td>
<td>F0.000.0004.8</td>
</tr>
<tr>
<td>Combination frame 3-fold</td>
<td>white</td>
</tr>
<tr>
<td></td>
<td>aluminum finish</td>
</tr>
<tr>
<td></td>
<td>F0.000.0003.5</td>
</tr>
</tbody>
</table>

Combination frame, 1-fold to 3-fold
- match the radio switches
- not suitable for multivendor radio switches

Frame for installation of the 2/4-channel radio switches for vertical or horizontal mounting.
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**® RST 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 (3 m, 2 hours)
all IP protection degrees are only valid for plugged cables or closed connections
only from the gesis RST 20i2 and gesis RST 20i3 series
Connector
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 typically 30 m in corridors, up to 100 m in halls
– Plaster board/wooden walls typically 30 m through max. 5 walls
– Brick/gas-aerated concrete walls typically 20 m through max. 3 walls
– Reinforced concrete walls/ceilings typically 10 m through max. 1 floor/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 nearby impair the range.

| Outputs (EnOcean controlled) | 4 | 1 | 1 |
| Outputs switching in parallel | 2 |
| 230 V Through-wiring | 3 | 1 | 1 | 1 | 1 |
| LED outputs 12 V/12 W | 1 |
| LED outputs 24 V/12 W | 1 |
| LED outputs 350 mA/12 W | 1 |
| LED outputs 700 mA/12 W | 1 |
| Low voltage/halogen output: 21 V/0 – 70 W | 1 |
| RST 20i3 black for power | 1 |
| RST 20i2 brown for low voltage | 1 |
| RST 20i2 gray for low voltage | 1 |

* 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 personnel 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 230 V with RST 20i3 connection 230 V
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

EnOcean 4-fold switching outputs in the IP68 surface housings for outdoor use feature four 230 V relays. They can be programmed for 30 push-button pairs. All electrical connections are pluggable.

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis RST-0/4</td>
<td>83.020.0505.0</td>
</tr>
</tbody>
</table>

Incoming supply:
- Power input/output: 230 V AC / 20 A connector
- Rated voltage: 230 V AC
- Switching capacity: 6 A (max. two of the LED/LV halogen modules given below)

General data:
- Type of protection: IP68 (all connections plugged or closed)
- Dimensions (length/width/height): 104/162/96 mm
- Installation option: 4 elongated holes

Switching application EnOcean 4-fold

EnOcean 1-fold switching outputs in the IP68 surface housing for outdoor use feature one 230 V relay. They can be programmed for 30 push-button pairs. All electrical connections are pluggable.

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis RST-0/1</td>
<td>83.020.0504.0</td>
</tr>
<tr>
<td>gesis RST-0/1x2</td>
<td>83.020.0504.1</td>
</tr>
</tbody>
</table>

Incoming supply:
- Power input/output: 230 V AC / 20 A connector
- Rated voltage: 230 V AC
- Switching capacity: 5 A total ohmic load

General data:
- Type of protection: IP68 (all connections plugged or closed)
- Dimensions (length/width/height): 104/162/57 mm
- Installation option: 4 elongated holes

Constant power supply unit, 350 mA DC

Constant power supply unit 350 mA for connecting LEDs. Connections not used have to be closed.

<table>
<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>

Incoming supply:
- Input power (male connector): 230 V AC/20 A RST 20i3 coding black
- Output power (female connector): 230 V AC/20 A RST 20i3 coding black
- Output LED (female connector): 350 mA DC/max. 12 W 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): 104/162/96 mm
- Electrical connections: pluggable with RST 20i2 ... 20i3

Constant power supply unit, 700 mA DC

Constant power supply unit 700 mA for connecting LEDs. Connections not used have to be closed.

<table>
<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>

Incoming supply:
- Input Power (male connector): 230 V AC/20 A RST 20i3 coding black
- Output Power (female connector): 230 V AC/20 A RST 20i3 coding black
- Output LED (female connector): 700 mA DC/max. 12 W 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): 104/162/96 mm
- Installation option: 4 elongated holes
- Electrical connections: pluggable with RST 20i2 ... 20i3
LED constant voltage supply, 12 V DC

<table>
<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>

**Incoming supply:**
- Input power (male connector): 230 VAC/20 A RST 20i3 coding black
- Output power (female connector): 230 VAC/20 A RST 20i3 coding black
- Output LED (female connector): 12 V DC max. 12 W RST 20i2 coding pebble gray

**General data:**
- Type of protection: IP68 (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

Constant voltage supply unit 12 V for connecting LEDs. Connections not used have to be closed.

LED constant voltage supply, 24 V DC

<table>
<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>

**Incoming supply:**
- Input power (male connector): 230 VAC/20 A RST 20i3 coding black
- Output power (female connector): 230 VAC/20 A RST 20i3 coding black
- Output LED (female connector): 12 V DC max. 12 W RST 20i2 coding pebble gray

**General data:**
- Type of protection: IP68 (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

Constant voltage supply unit 24 V for connecting LEDs. Connections not used have to be closed.

Transformer for low-voltage halogen luminaires, 12 V AC

<table>
<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>

**Incoming supply:**
- Input power (male connector): 230 VAC/20 A RST 20i3 coding black
- Output power (female connector): 230 VAC/20 A RST 20i3 coding black
- Output LV halogen (female connector): 12 V AC/0 – 70 W RST 20i2 coding pebble gray
- Output LV halogen cable length: max. 2 m

**General data:**
- Type of protection: IP68 (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

Power supply unit 12 V for connecting halogen luminaires. Connections not used have to be closed.

Accessories: covers

<table>
<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>
</tbody>
</table>
- 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: 25.564.4453.1

The covers have to be used to close all unused inputs and outputs. Without these covers, only IP20 is achieved!
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
- Standard connectors for KNX applications
- Distribution units and device connectors
- 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 (3 m, 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 (3 m, 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

<table>
<thead>
<tr>
<th>Use for</th>
<th>Part No.</th>
<th>Length m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switching outputs (relay)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>230V AC</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **gesis EIB V**
  - Combination actuator: 83.020.0212.x
  - Switching output: 83.020.0225.x
- **gesis RC**
  - Switching output: 83.020.0500.x
- **gesis FLEX**
  - Switching output: 83.020.0623.x
  - Switching output: 83.020.1023.x

**Male, screw connection**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Test plug</td>
<td>92.032.3053.1</td>
</tr>
<tr>
<td>92.022.5153.1</td>
<td></td>
</tr>
</tbody>
</table>

**Male – free end**

- 3 x 1.5 H05VV-F (PVC)
- 4 x 1.5 H05VV-F (PVC)
- 5 x 1.5 H05VV-F (PVC)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Test plug</td>
<td>92.932.3053.1</td>
</tr>
<tr>
<td>92.944.3053.1</td>
<td></td>
</tr>
<tr>
<td>92.022.5153.1</td>
<td></td>
</tr>
</tbody>
</table>

### GST 18i4, coding 1, black

<table>
<thead>
<tr>
<th>Use for</th>
<th>Part No.</th>
<th>Length m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunblind outputs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>230V AC</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **gesis EIB V**
  - Sunblind output: 83.020.0221.x
  - Sunblind output: 83.020.0222.x
- **gesis RC**
  - Sunblind output: 83.020.0501.x
- **gesis FLEX**
  - Sunblind output: 83.020.0624.x
  - Sunblind output: 83.020.1024.x

**Male, screw connection**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Test plug</td>
<td>92.932.3053.1</td>
</tr>
<tr>
<td>92.022.5153.1</td>
<td></td>
</tr>
</tbody>
</table>

**Male – free end**

- 3 x 1.5 H05VV-F (PVC)
- 4 x 1.5 H05VV-F (PVC)
- 5 x 1.5 H05VV-F (PVC)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Test plug</td>
<td>92.932.3053.1</td>
</tr>
<tr>
<td>92.022.5153.1</td>
<td></td>
</tr>
</tbody>
</table>

### GST 18i5, coding 1, black

<table>
<thead>
<tr>
<th>Use for</th>
<th>Part No.</th>
<th>Length m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switching outputs (relay)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>230V AC, 5-pole</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **gesis EIB V**
  - Switching output: 83.020.0214.x
- **gesis RC**
  - Switching output: 83.020.0504.x
- **gesis FLEX**
  - Switching output: 83.020.0626.x

**Male, screw connection**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Test plug</td>
<td>92.932.4053.1</td>
</tr>
<tr>
<td>92.022.5353.1</td>
<td></td>
</tr>
</tbody>
</table>

**Male – free end**

- 3 x 1.5 H05VV-F (PVC)
- 4 x 1.5 H05VV-F (PVC)
- 5 x 1.5 H05VV-F (PVC)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Test plug</td>
<td>92.932.4053.1</td>
</tr>
<tr>
<td>92.022.5353.1</td>
<td></td>
</tr>
</tbody>
</table>

### GST 18i5, coding 1, pastel blue

<table>
<thead>
<tr>
<th>Use for</th>
<th>Part No.</th>
<th>Length m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switching/ dimming outputs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **gesis EIB V**
  - Switching/dimming output: 83.020.0213.x
- **gesis M2**
  - Switching/dimming output: 83.020.1026.x

**Male, screw connection**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Test plug</td>
<td>92.932.4053.0</td>
</tr>
<tr>
<td>92.022.5350.0</td>
<td></td>
</tr>
</tbody>
</table>

**Male – free end**

- 3 x 1.5 H05VV-F (PVC)
- 4 x 1.5 H05VV-F (PVC)
- 5 x 1.5 H05VV-F (PVC)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Test plug</td>
<td>92.932.4053.0</td>
</tr>
<tr>
<td>92.022.5350.0</td>
<td></td>
</tr>
</tbody>
</table>
## Connector system in IP 20 format for Inputs

<table>
<thead>
<tr>
<th>GST 15i5, coding 3, light blue</th>
<th>GST 18i5, coding 3, light blue</th>
<th>GST 18i4, coding 2, pebble gray</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Length m</strong></td>
<td><strong>Part No.</strong></td>
<td><strong>Length m</strong></td>
</tr>
<tr>
<td>Use for binary input 24 V DC</td>
<td>gesis FLEX</td>
<td>Input</td>
</tr>
<tr>
<td>Male, spring clamp connection</td>
<td>as fig., but light blue contact zone</td>
<td>91.962.4353.0</td>
</tr>
<tr>
<td>Test plug</td>
<td>91.964.3353.0</td>
<td></td>
</tr>
<tr>
<td>Male – free end</td>
<td>as fig., but light blue contact zone</td>
<td>4.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8.0</td>
</tr>
<tr>
<td>Male – female</td>
<td>as fig., but light blue contact zone</td>
<td>4.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8.0</td>
</tr>
</tbody>
</table>
## Connector system in IP 20 format for Incoming supply

### for gesis® EIB

<table>
<thead>
<tr>
<th>Material/Application</th>
<th>Part No.</th>
<th>Material/Application</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power/KNX flat cable</td>
<td></td>
<td>Power/KNX flat cable</td>
<td></td>
</tr>
<tr>
<td>Power: GST 18i5/i3 black</td>
<td>00.709.0323.9</td>
<td>Power: GST 18i3 black</td>
<td>00.709.0303.7</td>
</tr>
<tr>
<td>KNX: BST 14i2 green</td>
<td>00.709.0323.9</td>
<td>PVC Halogen-free</td>
<td>00.709.0303.7</td>
</tr>
</tbody>
</table>

### for gesis® RC

<table>
<thead>
<tr>
<th>Material/Application</th>
<th>Part No.</th>
<th>Material/Application</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power/KNX flat cable</td>
<td></td>
<td>Power/KNX flat cable</td>
<td></td>
</tr>
<tr>
<td>Power: GST 18i3 black</td>
<td>00.709.0323.9</td>
<td>Power: GST 18i3 black</td>
<td>00.709.0303.7</td>
</tr>
</tbody>
</table>

### Lock for various connections

<table>
<thead>
<tr>
<th>Application/Color</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locking devices female – male for cables</td>
<td></td>
</tr>
<tr>
<td>Locking device</td>
<td></td>
</tr>
<tr>
<td>Power tap L1-L3</td>
<td>05.590.4556.1</td>
</tr>
<tr>
<td>Power tap L1</td>
<td>05.590.4556.0</td>
</tr>
<tr>
<td>Power tap L2</td>
<td>05.590.4556.1</td>
</tr>
<tr>
<td>Power tap L3</td>
<td>05.590.4556.0</td>
</tr>
<tr>
<td>Sheath stripping tool</td>
<td>05.350.0200.0</td>
</tr>
<tr>
<td>Cable cutter</td>
<td>05.300.0300.0</td>
</tr>
</tbody>
</table>

### Flat cable accessories

- GST 18i3 power 3-pole
- GST 18i3 power 5-pole
- GST 18i3/i5 connector (not for snap-in and distribution blocks)

### Power

- GST 18i3 power 3-pole
- GST 18i3 power 5-pole

### Power tap L1-L3

- without spacer 93.421.0853.0
- with spacer 93.421.1153.0

### Power tap L1

- Without spacer 93.421.0853.0
- With spacer 93.421.1153.0

### Power tap L2

- Without spacer 93.421.0853.0
- With spacer 93.421.1153.0

### Power tap L3

- Without spacer 93.421.0853.0
- With spacer 93.421.1153.0

### Locking devices for the incoming supply of devices

- Flat cable adapter GST 18i3 power 3-pole
- Flat cable adapter GST 18i3 power 5-pole
- GST 18i3/i5 connector (not for snap-in and distribution blocks)

### Cable clips for flat cable

- Without spacer 93.421.0853.0
- With spacer 93.421.1153.0

### Locking device combinations

<table>
<thead>
<tr>
<th>Locking device combinations</th>
<th>Incoming supply gesis® EIB V</th>
<th>Incoming supply gesis® EIB M2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flat cable adapter GST 18i3 power 3-pole</td>
<td>05.590.4556.1 (bl)</td>
<td>05.590.4556.0 (wh)</td>
</tr>
<tr>
<td>Flat cable adapter GST 18i3 power 5-pole</td>
<td>05.590.4556.1 (bl)</td>
<td>05.590.4556.0 (wh)</td>
</tr>
<tr>
<td>GST 18i3/i5 connector (not for snap-in and distribution blocks)</td>
<td>05.587.3156.1 (bl)</td>
<td>05.587.3156.0 (wh)</td>
</tr>
</tbody>
</table>
Connector system in IP20 format for Incoming supply

**GST 18i3, coding 1, black**

<table>
<thead>
<tr>
<th>Use for mains feed 1-phase, 3-pole</th>
<th>Length m</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>gesis EIB V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Combination actuator</td>
<td>83.020.0212.4</td>
<td></td>
</tr>
<tr>
<td>Switching/dimming output</td>
<td>83.020.0213.4</td>
<td></td>
</tr>
<tr>
<td>Gateway</td>
<td>83.020.0220.1</td>
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</tr>
<tr>
<td>Sunblind output</td>
<td>83.020.0221.4</td>
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<tr>
<td>gesis RC</td>
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</tr>
<tr>
<td>Switching output</td>
<td>83.020.0501.x</td>
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</tr>
<tr>
<td>Sunblind output</td>
<td>83.020.0502.x</td>
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</tr>
<tr>
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<td>Feeder modules</td>
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</tr>
<tr>
<td>Male – female</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 x 1.5 H05VV-F (PVC)</td>
<td>1.0 to 8.0</td>
<td>92.232.1004.1</td>
</tr>
<tr>
<td>3 x 1.5 H05VV-F (PVC)</td>
<td>1.0 to 8.0</td>
<td>92.232.8004.1</td>
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<td></td>
</tr>
<tr>
<td>Switching output</td>
<td>83.020.0600.x</td>
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<tr>
<td>Male – female</td>
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<tr>
<td>3 x 1.5 H05VV-F (PVC)</td>
<td>1.0 to 8.0</td>
<td>92.232.1000.1</td>
</tr>
<tr>
<td>3 x 1.5 H05VV-F (PVC)</td>
<td>1.0 to 8.0</td>
<td>92.232.8000.1</td>
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**GST 18i5, coding 1, black**

<table>
<thead>
<tr>
<th>Use for mains feed 3-phase, 5-pole</th>
<th>Length m</th>
<th>Part No.</th>
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<tr>
<td>gesis EIB V</td>
<td></td>
<td></td>
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<tr>
<td>Combination actuator</td>
<td>83.020.0212.0</td>
<td></td>
</tr>
<tr>
<td>Switching/dimming output</td>
<td>83.020.0213.0</td>
<td></td>
</tr>
<tr>
<td>Gateway</td>
<td>83.020.0214.0</td>
<td></td>
</tr>
<tr>
<td>Sunblind output</td>
<td>83.020.0220.2</td>
<td></td>
</tr>
<tr>
<td>gesis RC</td>
<td>83.020.0500.x</td>
<td></td>
</tr>
<tr>
<td>Switching output</td>
<td>83.020.0501.x</td>
<td></td>
</tr>
<tr>
<td>Sunblind output</td>
<td>83.020.0502.x</td>
<td></td>
</tr>
<tr>
<td>gesis EIB M2</td>
<td></td>
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</tr>
<tr>
<td>Base modules</td>
<td>83.020.1000.0</td>
<td></td>
</tr>
<tr>
<td>gesis FLEX</td>
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<td></td>
</tr>
<tr>
<td>Feed modules</td>
<td>83.020.1000.0</td>
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</tr>
<tr>
<td>gesis EIB V</td>
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<td></td>
</tr>
<tr>
<td>Male – female</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 x 1.5 H05VV-F (PVC)</td>
<td>1.0 to 8.0</td>
<td>92.257.1000.1</td>
</tr>
<tr>
<td>5 x 1.5 H05VV-F (PVC)</td>
<td>1.0 to 8.0</td>
<td>92.257.8000.1</td>
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**BST 14i2, coding 1, green**

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<th>Use for KNX feed</th>
<th>Length m</th>
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<td>KNX-TP, SELV</td>
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<tr>
<td>gesis EIB V</td>
<td></td>
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</tr>
<tr>
<td>Combination actuator</td>
<td>83.020.0212.x</td>
<td></td>
</tr>
<tr>
<td>Switching/dimming output</td>
<td>83.020.0213.x</td>
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</tr>
<tr>
<td>Gateway</td>
<td>83.020.0214.x</td>
<td></td>
</tr>
<tr>
<td>Sunblind output</td>
<td>83.020.0220.x</td>
<td></td>
</tr>
<tr>
<td>Conversion/actuator</td>
<td>83.020.0500.x</td>
<td></td>
</tr>
<tr>
<td>Gateway</td>
<td>83.020.0501.x</td>
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<tr>
<td>Sunblind output</td>
<td>83.020.0502.x</td>
<td></td>
</tr>
<tr>
<td>gesis EIB M2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Base modules</td>
<td>83.020.1020.0</td>
<td></td>
</tr>
<tr>
<td>gesis FLEX</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Base modules</td>
<td>83.020.1020.0</td>
<td></td>
</tr>
<tr>
<td>gesis EIB V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male – female</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 x 2 x 0.8 FB-2Y(ST)2Y (PVC)</td>
<td>1.0 to 8.0</td>
<td>94.425.1000.7</td>
</tr>
<tr>
<td>2 x 2 x 0.8 FB-2Y(ST)2Y (PVC)</td>
<td>1.0 to 8.0</td>
<td>94.425.8000.7</td>
</tr>
</tbody>
</table>
Connector system RST in IP 65...68 format for Incoming supply, output, accessories

<table>
<thead>
<tr>
<th>Length m/Cable Ø</th>
<th>Part No.</th>
<th>Length m/Cable Ø</th>
<th>Part No.</th>
<th>Length m/Cable Ø</th>
<th>Part No.</th>
<th>Length m</th>
<th>Part No.</th>
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<tr>
<td><strong>Incoming supply</strong></td>
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<td>RST 2013 black</td>
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<td>Female, screw connection</td>
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</tr>
<tr>
<td>6 – 10 mm</td>
<td>96.031.4053.1</td>
<td>6 – 10 mm</td>
<td>92.021.4050.8</td>
<td>6 – 10 mm</td>
<td>96.021.4051.4</td>
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<tr>
<td>10 – 14 mm</td>
<td>96.031.4153.1</td>
<td>10 – 14 mm</td>
<td>96.021.4150.8</td>
<td>10 – 14 mm</td>
<td>96.021.4151.4</td>
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<tr>
<td><strong>Male, screw connection</strong></td>
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<tr>
<td>6 – 10 mm</td>
<td>96.032.4053.1</td>
<td>6 – 10 mm</td>
<td>92.022.4050.8</td>
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<td>96.022.4051.4</td>
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<td>10 – 14 mm</td>
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<td>10 – 14 mm</td>
<td>96.022.4150.8</td>
<td>10 – 14 mm</td>
<td>96.022.4151.4</td>
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<tr>
<td><strong>Female – Male</strong></td>
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<td>1.0</td>
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<td>96.222.1032.8</td>
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<td>96.222.1032.4</td>
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<td>8.0</td>
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<td>8.0</td>
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<tr>
<td><strong>Distribution block</strong></td>
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</tr>
<tr>
<td>1I/3O parallel</td>
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<tr>
<td>With mounting option</td>
<td>96.030.0153.0</td>
<td>Without mounting option</td>
<td>96.030.0253.0</td>
<td>With mounting option</td>
<td>96.020.0150.8</td>
<td>Without mounting option</td>
<td>96.020.0250.8</td>
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<td><strong>Output (voltage)</strong></td>
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<td>LED/LV halogen RST 2012</td>
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<td>Female, screw connection</td>
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<tr>
<td>6 – 10 mm</td>
<td>96.031.4053.1</td>
<td>6 – 10 mm</td>
<td>96.021.4051.4</td>
<td>6 – 10 mm</td>
<td>96.022.4051.4</td>
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<tr>
<td><strong>Output (power)</strong></td>
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<td>LED RST 2012 brown</td>
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<tr>
<td>Female, screw connection</td>
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<tr>
<td>6 – 10 mm</td>
<td>96.032.4053.1</td>
<td>6 – 10 mm</td>
<td>92.022.4050.8</td>
<td>6 – 10 mm</td>
<td>96.022.4051.4</td>
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<tr>
<td><strong>Covers</strong></td>
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<td>RST 2012 and RST 2013</td>
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<tr>
<td>Female, cover, black</td>
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<tr>
<td>Male, cover, black</td>
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<tr>
<td>Not captive against loss</td>
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<td>99.414.6205.2</td>
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<td>05.554.4453.1</td>
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<td>99.416.6205.2</td>
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<tr>
<td>6 – 10 mm</td>
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<td>6 – 10 mm</td>
<td>96.022.4051.4</td>
<td>6 – 10 mm</td>
<td>96.022.4051.4</td>
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<tr>
<td><strong>Jumperplug</strong></td>
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<td>RST 2012 brown</td>
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<tr>
<td>Note: Only use jumper plug for serial distribution box 99.910.0000.7</td>
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<tr>
<td><strong>Distribution block</strong></td>
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<td>1I/3O serial</td>
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<td>With mounting option</td>
<td>99.910.0000.7</td>
<td>Without mounting option</td>
<td>96.537.0000.7</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

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

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
Industrietechnik

Lösungen für den Schaltschrank

• Reihenklemmen
  – Schraub-, Zugfeder- oder Push In-Anschlusstechnik
  – Leiterquerschnitte bis 240 mm²
  – zahlreiche Sonderfunktionen
  – Softwarelösungen mit Schnittstellen zu CAE-Systemen

• Safety
  – sichere Signalerfassung
  – Sicherheitsschaltgeräte
  – modulare Sicherheitsbausteine
  – kompakte Sicherheitssteuerung
  – applikative Beratung und Schulungen

• Netzwerktechnik und Feldbussysteme
  – Fernwartung mit VPN-Industrierouter und VPN-Serviceportal
  – Industrie-Ethernet-Switches
  – SPS und I/O-Systeme, Standard und erweiterte Umgebungsbedingungen

• Interface
  – Stromversorgungen
  – Überspannungsschutz
  – Koppelrelais, Halbleiterschalter
  – Zeit-, Mess- und Überwachungsrelais
  – analoge Koppel- und Wandlerbausteine
  – Übergabebausteine

Lösungen für Feld-Applikationen

• Dezentrale Installations- und Automatisierungstechnik
  – Windtower-Installationen
  – Feldbusanschaltungen und Motorstarter für Antriebe

• Steckverbinder für industrielle Anwendungen
  – Rechteck- und Rundsteckverbinder
  – Gehäuse aus Aluminium oder Kunststoff
  – Schutzart bis IP 68
  – Strombelastbarkeit bis 100 A
  – Steckverbinder für explosionsgefährdete Bereiche
  – modulare, applikationsspezifische Technik

Leiterplattenklemmen und -steckverbinder

– Schraub- oder Federkraftanschlussstechnik
– Rastermaße 3,5 mm bis 10,16 mm
– Reflow- oder Schwallbadlötprozess

Gebäude- und Installationstechnik

• Gebäudeinstallationssysteme
  – Netz-Steckverbinder IP 20/IP 65 ... IP 68
  – Bus-Steckverbinder
  – Niedervolt-Steckverbinder
  – Energieverteilsystem mit Flachleitungen
  – Verteiler-Systeme
  – Bussysteme in KNX-, LON- und Funk-Technologie
  – Installationsreihenklemmen
  – Überspannungsschutz

More detailed product informations:

0690.1  gesis®
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
- **Auto or wide-range voltage input** for worldwide use
- **Outdoor installation possible** due to wide temperature range
- **High operational safety** due to long power back-up times of more than 30 ms
- **Balance of voltage drops** with settable output voltage
- **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 IEC 62305-4 (DIN EN 62305-4, DIN 0185-305-4)

<table>
<thead>
<tr>
<th>Protection Zone</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPZ 0\textsubscript{a}</td>
<td>Risk due to direct hit, surge current up to the full lightning current and the full lightning electromagnetic field.</td>
</tr>
<tr>
<td>LPZ 0\textsubscript{b}</td>
<td>Protected against direct hits. Risk due to surge current up to partial lightning current and the full lightning electromagnetic field.</td>
</tr>
<tr>
<td>LPZ 1</td>
<td>Surge current is further limited by current sharing and by SPDs at the zone borders. Shielding may attenuate the lightning electromagnetic field.</td>
</tr>
<tr>
<td>LPZ 2</td>
<td>Surge current is further limited by current sharing and by SPDs at the zone borders. Spatial shielding may attenuate the lightning electromagnetic field.</td>
</tr>
</tbody>
</table>

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

0800.1 "*interface*
Solutions for the control cabinet"
Catalog 2014
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.
Index: Part No., type, group, page

00.702.0303.7  gesis CON  82
00.702.0323.9  gesis CON  82
00.709.0303.7  gesis CON  82
00.709.0323.9  gesis CON  82
05.562.3000.0  gesis CON  82
05.563.9753.0  gesis CON  82
05.564.4453.1  gesis RST  77
05.564.4453.1  gesis IP+  84
05.587.3156.0  gesis CON  82
05.587.3156.1  gesis CON  82
83.020.0212.0  gesis EIB V-0/2+1W  55
83.020.0212.4  gesis EIB V-0/2+1W SP  55
83.020.0213.0  gesis EIB V-0/2SD  55
83.020.0213.4  gesis EIB V-0/2SD SP  55
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83.020.0225.0  gesis EIB V-0/4  68
83.020.0303.9  gesis LON RM2-BAS  40
83.020.0303.9  gesis LON RM2-BAS  60
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