Heating, Ventilation, Air Conditioning

wieland

**Components
for Heating, Ventilation
and Air Conditioning**

Brought into focus

Heating, ventilation, air conditioning

competence & experience

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CO_2

Heating, ventilation, air conditioning

Technology for the environment & the future

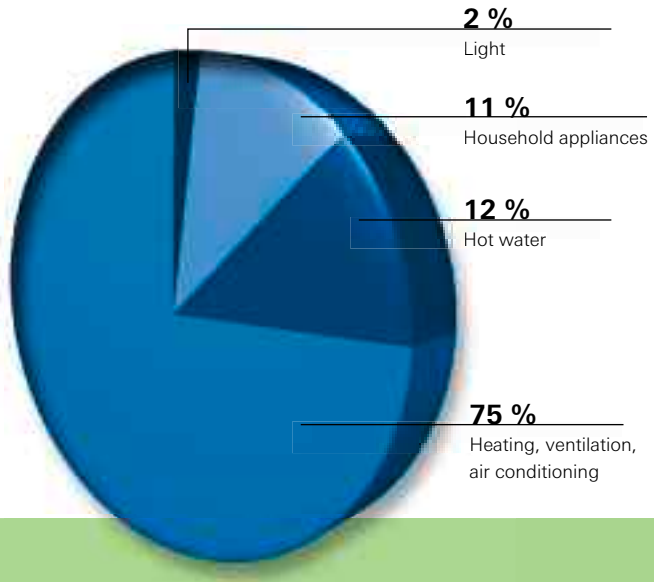
The 21st century brought a change in the way of thinking. Fighting global warming has become the greatest challenge. One of the main tasks that needs to be mastered is counteracting the increase of global energy consumption. Power generation from fossil fuels is currently the main pillar of energy production. Since climate-damaging CO_2 is released when fossil fuels are burned, the aim is to use and conserve the extracted energy more efficiently. Furthermore, the amount of fossil resources available will not be sufficient to satisfy the increasing energy consumption needs in the future. Measures for renewable energy generation are therefore being promoted and developed on a global level.

Today, no other industry combines different energies as efficiently as the heating industry. In the air conditioning and ventilation sectors, integrated approaches ensure that buildings are air-conditioned without expensive loss to the outside environment.

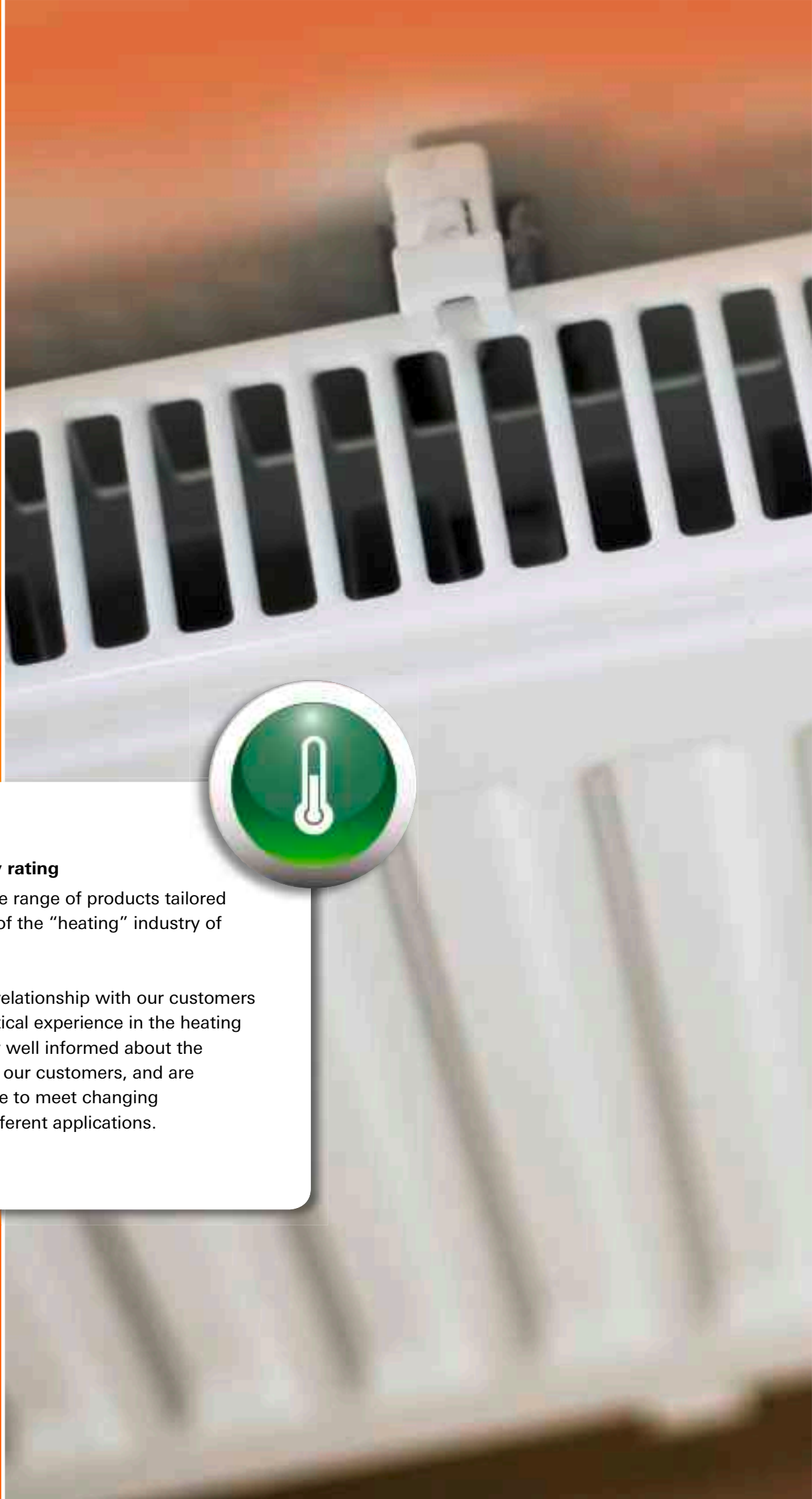
For decades, Wieland has been one of the main suppliers in these industrial sectors. Wieland Electric is your dependable partner offering a multitude of specific solutions and innovative product developments as well as in-depth consultation, e.g. for changing requirements caused by new device concepts or industry specific standards.
To the benefit of all of us. For a green future.

For further information about our technology and solar energy solutions, please refer to our homepage or get in touch with your contact person in the Sales Department.

Energy consumption in an average household in Germany:



Due to the dramatically rising prices and limited resources of oil and gas, alternative energy generation is becoming increasingly significant.



Successful industry rating

Wieland offers a wide range of products tailored to the requirements of the “heating” industry of the future.

Thanks to our close relationship with our customers and decades of practical experience in the heating industry, we are very well informed about the needs and desires of our customers, and are happy to satisfy these to meet changing requirements and different applications.


3
4
5

A safe concept

From an electro-technical point of view, a heating system can roughly be divided into control cabinet, control and burner. They are mostly located in the basements of buildings, where they are assembled piece by piece by professional personnel.

The products specially designed for this industry are different from others insofar as they can be installed and connected easily, quickly, and without error.

Whether it is installation technology outside of the control cabinet, interface products and connection technology inside the control cabinet or connection technology on the PCB, Wieland has the experience, expertise and capabilities to successfully shape the future with you.

Heating technology applications

Wieland Electric offers various products for the field of heating construction and the installation of heating systems.

Products for external wiring:

- ***gesis*** ST 18 connectors
- ***gesis*** GST 18 connectors
- ***gesis***MINI GST 15 connectors

Products for the control:

- ***wiecon*** Rast 5 PC board connectors
- ***wiecon*** 8213 S and B PC board connectors

Products for the control cabinet:

- ***selos, fasis, fasis***CON and ***taris*** DIN rail terminal blocks
- ***interface:*** Measurement relays, timer relays, switching relays, coupling relays modules 6.2 mm,
  wietap overvoltage protection,
  wipos power supplies,
  Interface modules
- ***safety*** safety technology

For further technical data, please use our online e-catalog at:

http://ecat.wieland-electric.com

Wieland technology is used in control cabinets, controls and burner units of modern heating systems.

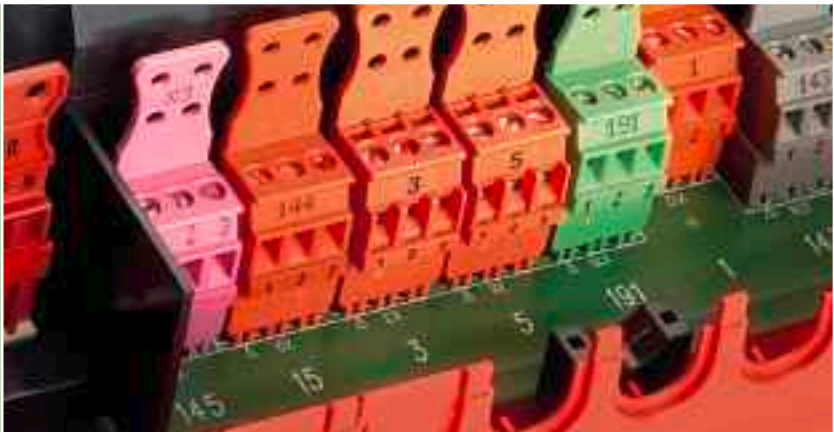
Installation
easy & error free

Important points about connectors

The ***gesis*** ST 18, known today as the "burner connector", used to be used in the heating controls as a means of connecting the individual modules. It has meanwhile been completely replaced there by the connectors known on the market as "RAST 5". Inside the controls, 5mm pitch PCB connectors (Wieland 8113 series) are used.

The demands on PC board connectors in heating technology are extensive.
Since the individual heating components are shipped to the construction sites, it must be ensured that installation can be done easily and without error. For this purpose, the connectors are clearly color-coded and mechanically coded. The application-specific markings facilitate wiring and trouble shooting. For the most part, the plastics used must meet the requirements specified in EN 60335-1.

The different coloring of the connectors makes installation as easy as child's play.



No Flame requirement of EN 60335-1

Innovative and proven technology

Comprehensive technical safety is also mandated in EN 60335-1. It deals with the safety criteria of electrical devices for residential use and similar purposes.
Certain products that are not used for normal household applications but could still pose a risk to the general public also fall under the field of application of this standard.

Products that must meet EN 60335-1:

- Boiler controls/ pumps
- Heat pumps
- Pumps for heating circuits

The objective of the standard is, for unattended electrical devices, to not use any plastic on connectors with a current load exceeding 0.2A per contact that does not self extinguish within a short amount of time (2 sec.).
The testing procedure required for this is complex and was a major challenge for the manufacturers of plastic and connectors. Wieland has perfectly implemented the electrical and mechanical requirements in their products.

7021	7001	3014	9010	1016
black gray	silver gray	dusky pink	pure white	sulfur yellow
4009	8002	5012	6027	2012
pastel violet	signal brown	pale blue	pale green	salmon orange
5005	7015	1001	5019	4005
moss green	slate gray	beige	capri blue	blue lilac

The connector range required meets the "No Flame" requirements and comprises 15 different colors.
Your contact persons in the Sales Department will be pleased to help you if you have any further questions about this topic.

Example of Wieland connectors in a heating control device.

The perfect **connection**

Boiler-burner connection

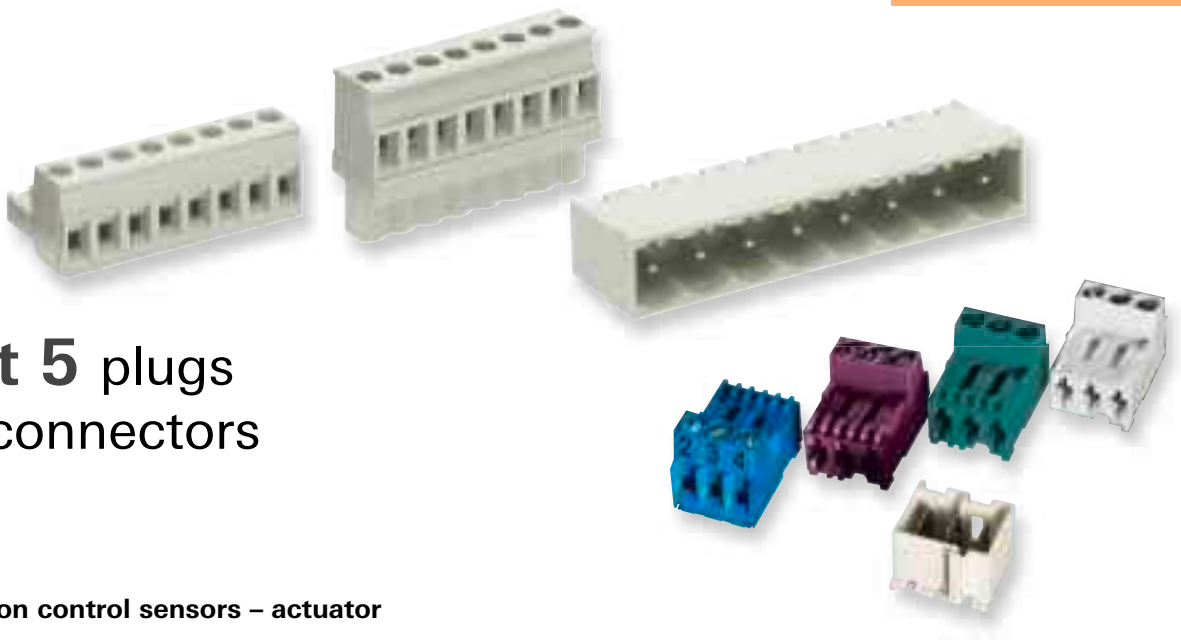
The well known Wieland connector ***gesis*** ST 18 is mostly used for the connection of boiler and burner. In different designs and colors, it is used for the first as well as the second burner level. In new systems, it is replaced by its successor, ***gesis*** ST 18, or the smaller version, ***gesis*** ST 15.
In this industry, they serve as the de-facto standard because of their functionality and superior installation properties. During the final installation of the heating unit, the cable lengths must be modified on site. All the product advantages play a role here.

Convincing advantages:

- Robust connector of high quality
- Mechanically coded in the factory
- Color-coded in the factory
- Meet the “No Flame” requirements,
- You can easily assemble it yourself (using standard tools)
- Easily and safely pluggable
- Touch-proof
- Up to a nominal current of 16 A

Above: *gesis* ST18 burner connector.

Right: The modern *gesis* ST 18 connector in a heating application.



Rast 5 plugs and connectors

Connection control sensors – actuator

Rast 5 (Wieland 8105 series) is a standardized connector form. It is in heating technology that Rast 5 connections are mainly used. With their specific coding from the factory, they offer plugging and operational reliability on the one hand and considerable advantages for the final installation on the other hand. Rast 5 connectors are mainly used for the connection of the supply voltage.

PC board connectors for control

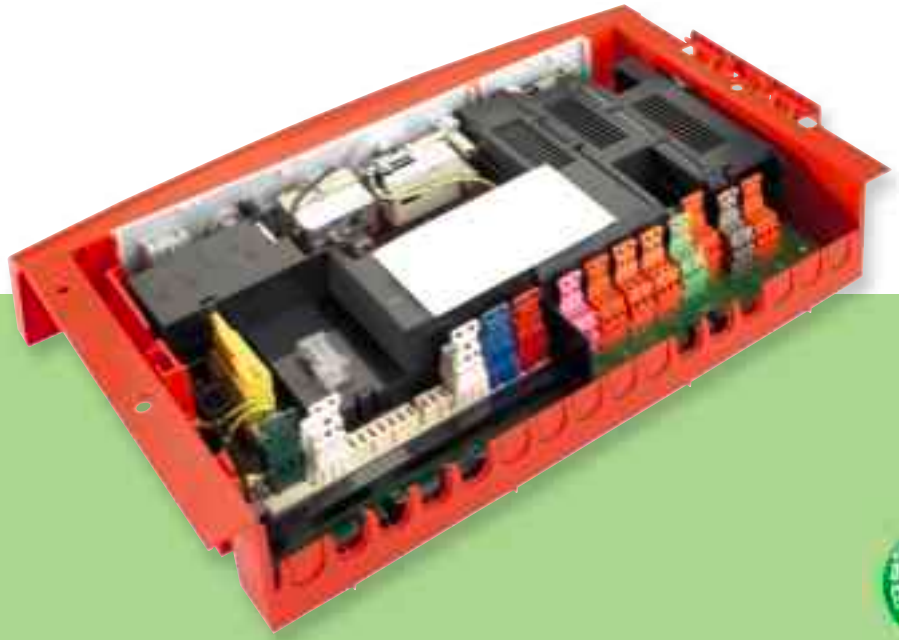
Our customers in the heating industry know Wieland PC board connectors in a 5.08mm pitch PCB (8213 S and B series) for their supreme quality and durability. They are mostly used for the connection of the inputs and outputs of the control.

Convincing advantages:

- Fixed coding (molded coding)
- Wide range of standard colors
- Wide range of “No Flame” colors
- Standard and custom marking
- Screw and IDC connection
- Broad portfolio of socket parts

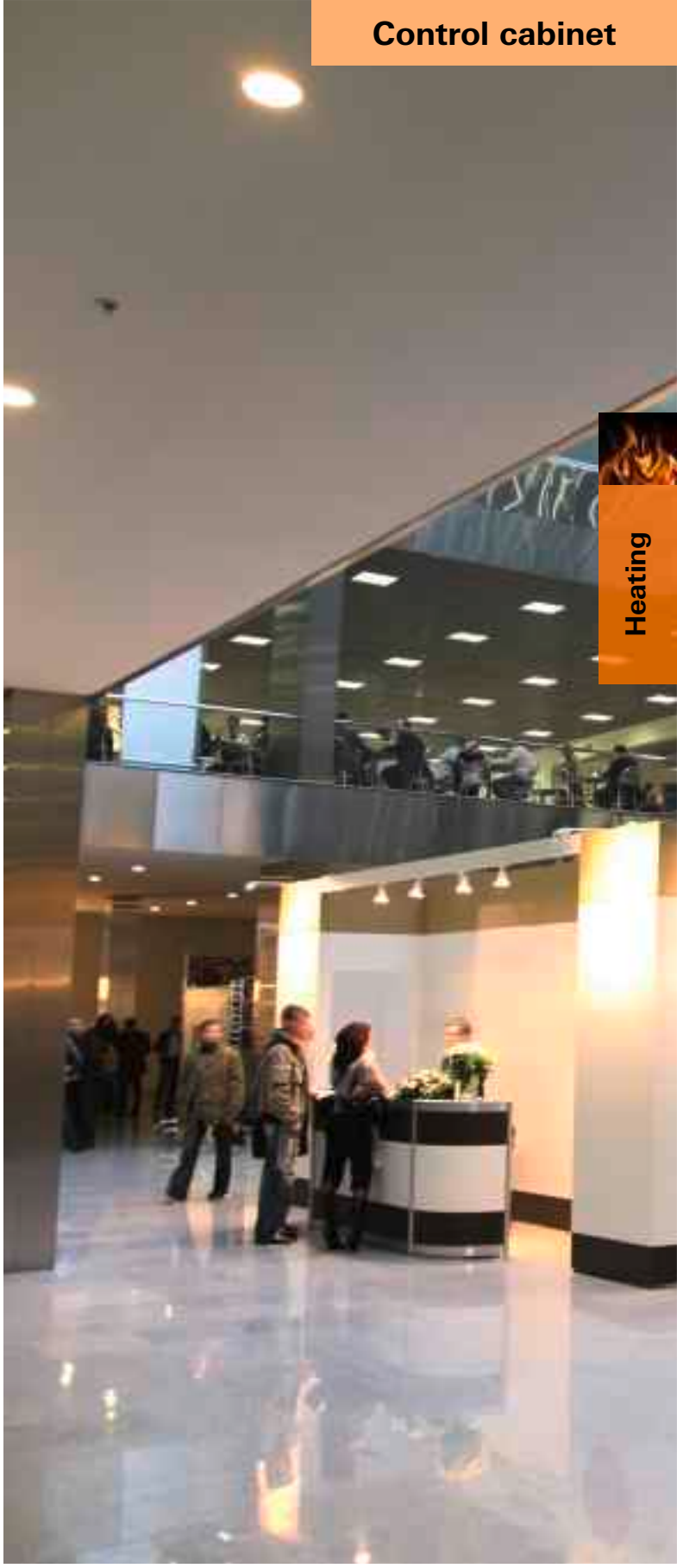
Convincing advantages:

- Fixed coding possible (molded coding)
- Open coding (self-coding possible)
- Wide range of standard colors
- Wide range of “No Flame” colors
- Standard and custom marking
- Broad portfolio of header and plug configurations, with diverse termination technologies



Control cabinet

Whether explosion and fire protection, vibration and shock resistance or international approvals for worldwide use – Wieland Electric provides solutions using all connection techniques available in the market.



Welcome to the **control center**

Technology for the control cabinet

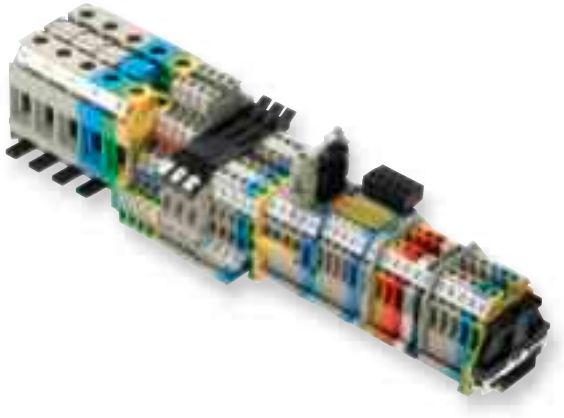
Heating systems in larger facilities require a control center to perform all of their functions. It contains standard components as well as individual, industry-specific add-ons to execute the control functions.

Wieland Electric offers a multitude of products and capabilities, ensuring the high quality you expect.

Products for the control cabinet:

- DIN rail terminal blocks (screw/ spring/ and IDC technology)
- Safety technology
- Coupling relays
- Power supplies
- Lightning and overvoltage protection
- Measurement relays and monitoring relays
- Interface modules

fasis, selos, taris – DIN rail terminal blocks safe and durable



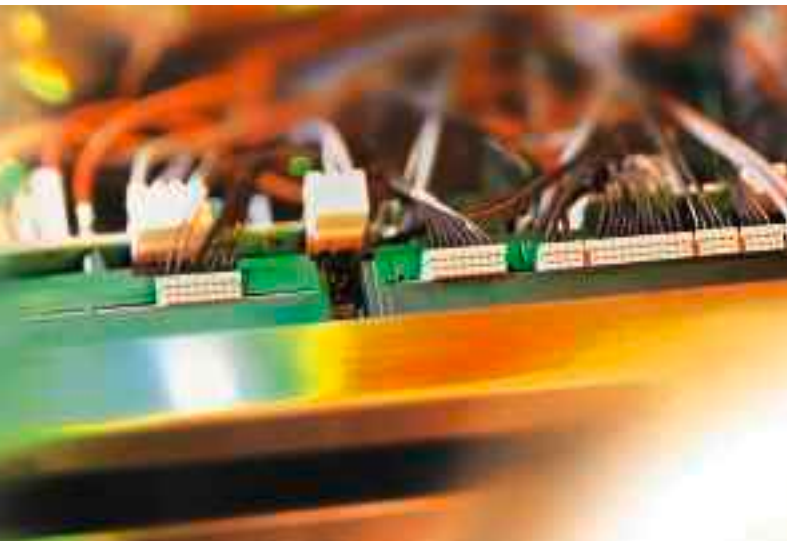
Power supply and distribution

The ***selos, fasis*** and ***taris*** ranges of DIN rail terminal blocks provide you with versatile and durable components for the most diverse connection points inside the control cabinet.

Whether as terminating of sensors and actuators, signal distribution of the system control or current/voltage measurement, DIN rail terminal blocks are standard connection devices for the control cabinets of a heating system.

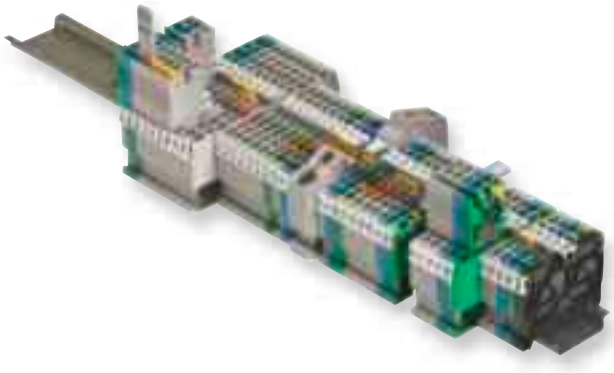
selos WKN **screw technology**

Safe connection, proven concept! Wieland's **WKN** series has earned a solid reputation over the decades and sets standards of the highest quality for the market. The broad range of standard and application specific terminals offers a solution for every application.



selos **WKN features:**

- Safe screw connection technology using rising cage clamp
- Large termination cross section
- Broad portfolio of standard and specialised terminals
- Wide range of accessories



fasis WKFN **tension spring technology**

Robust, high-capacity DIN rail terminal blocks with vibration proof tension spring connection technology for all areas of electrical wiring. The broad range shines with a large termination cross section and a narrow width. The double bridging channels reduce the amount of wiring for signal and potential distributions. The clear labeling is still visible even when the conductors are connected.

fasis **WKFN features:**

- Broad portfolio of standard and specialised terminals
- Large termination cross section, narrow terminal
- Double bridging channels
- Excellent labeling possibilities
- Integrated test point

fasisCON **tension spring technology with plug connection**

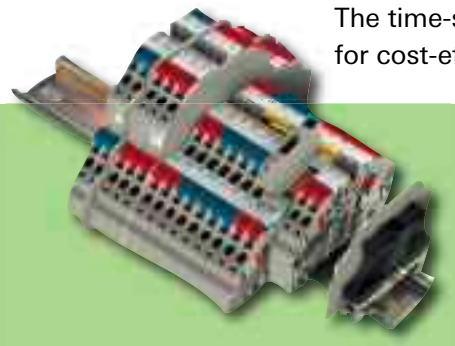
For the pluggable connection of components to a DIN rail terminal block, Wieland offers a solution that can be used up to 32A for a 4mm conductor, and with an overall width of 5mm. ***fasis***CON features a vibration-proof spring clamp connection that guarantees contact reliability in all climatic and environmental conditions, thereby minimizing maintenance.

fasisCON **features:**

- Pluggable connection to a DIN rail terminal block
- Up to a rated current of 32A
- Up to a conductor cross section of 4mm²
- Bridging possibility on the connector
- Excellent labeling possibilities

taris WKC **IDC connection technology**

The time-saving IDC connection technology for cost-efficient wiring in the factory.



Safety – safe and sound advice

Safety technology has become an integral part of machine and system concepts. The system requirements are subject to continuous changes and adaptions. Not only does Wieland manufacture high-grade components, it also offers you specialist advice and support.

Firings in the field of heating systems are particularly subject to certain standardized requirements. Firings are technical mechanisms for the generation of heat, e.g. at steam boilers, where defined safety criteria, such as a water shortage when feeding in fuels during firings, need to be supervised. If a safety criterion is violated, the fuel supply must be discontinued immediately. Igniting the fuel as well as supervising the firing are additional parameters that must be monitored during operation to avoide dangerous state of the burner.

For the supply of fuel, system parts must therefore be equipped with control devices and equipment components that ensure safe shut down.

The safety relays from the **SNA** and **SNV** series allow for a safe interruption of the fuel supply. These safety switching devices fulfill the important requirement of EN 50156 concerning 2 independent switching elements (diverse relay outputs).
This way, safety functions such as the closing of the safety quick-action stop valves for fuel when reaching the relevant limit values or regulation parameters or when the emergency stop is activated can be achieved, as can the monitoring of the flame and the pre-aeration.

Features:

- Certified according to EN 50156
- Modular compact safety controls
- Spring-clamp or screw terminals (fixed or pluggable)
- Slim design (22.5mm modules)
- Temperature range from -25°C to +55°C
- Expert application support

Products from the **SNV** device family contain, for example, a safe internal logic component to monitor the respective safety functions.

interface – technology for the control cabinet

interface

Whenever current flows and signals are processed, the ***interface*** products from Wieland Electric show their unique strength. With the broad range of relays, the components for power supply and for overvoltage protection as well as the interface and analog modules, every heating system can be equipped properly.

***wipos* power supply**

A 24V control voltage can be generated using the robust ***wipos*** power supplies. The devices are designed and approved worldwide for a broad temperature range from -25°C to +71°C.

***wietap* lightning and overvoltage protection**

With ***wietap*** lightning and overvoltage modules a complete safety system can be constructed. The devices fulfill the most extreme demands made on their current carrying capability. The modular assembly design enables quick replacement of modules and meets the highest functionality requirements.

***flare*MOVE pluggable coupling relays**

Various coupling functions can be carried out by the broad range of products in the ***flare*MOVE** series. Pluggable coupling relays are also available in various designs and are ideally suited to the demands of a control cabinet.

Measurement relays and monitoring relays

Whether voltage, current, phase or temperature monitoring: Individual monitoring functions can be achieved both reliably and independently using Wieland's Measurement relays and monitoring relays.

Interface modules

Various transfer functions must be accomplished within the control cabinet. Our R&D team specializes in designing customer-specific electronic and electromechanical interface modules.

Features:

- Broad portfolio of interface products
- A multitude of functionality within the product lines
- Good price-performance ratio
- Customer-specific interface modules are possible

Further information

Contacts are green

Wieland Electric is one of the technology leaders and leading innovators in the field of pluggable connections for building systems technology and industrial automation worldwide. Wherever there is energy or signal distribution, Wieland stands for: green light for innovative ideas. Because: **contacts are green**.

Wieland Electric offers you suitable products for all areas of application.

Wieland product ranges:

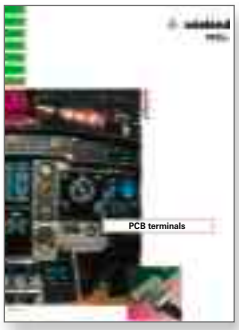
- DIN rail terminal blocks
- Safety technology
- Fieldbus components
- Distributed automation
- Round connector system
- Industrial multipole connectors
- System connectors

Wieland e-catalog

For further technical data, please use our online e-catalog at:

http://ecat.wieland-electric.com

Catalog
BIT – Bbuilding Installation technology, automation technology, system technology
Part No. 0160.0



Catalog
wiecon –
PCB terminals
Part No. 0140.0

Brochure
wiecon –Overview
PCB connectors
Part No. 0045.0

Catalog section
selos – DIN rail
terminal blocks with
screw connection
Part No. 0125.0

Catalog section
selos / ***fasis***BIT –
DIN rail terminal
blocks for junction
boxes
Part No. 0117.0

Catalog section
fasis – DIN rail terminal
blocks with tension
spring connection
Part No. 0124.0

Brochure
fasisCON – DIN rail
terminal blocks with
pluggable connection
Part No. 0130.0

Catalog section
taris® – DIN rail
terminal blocks with
IDC technology
Part No. 0123.0

Catalog
safety – Safe System
Solutions for the
Automation Technology
Part No. 0152.0

Catalog
interface – Solutions
for the Control cabinet
Part No. 0156.0

Industry brochure
Wind of change –
Electro-technical solutions
for wind energy systems
Part No. 0400.1

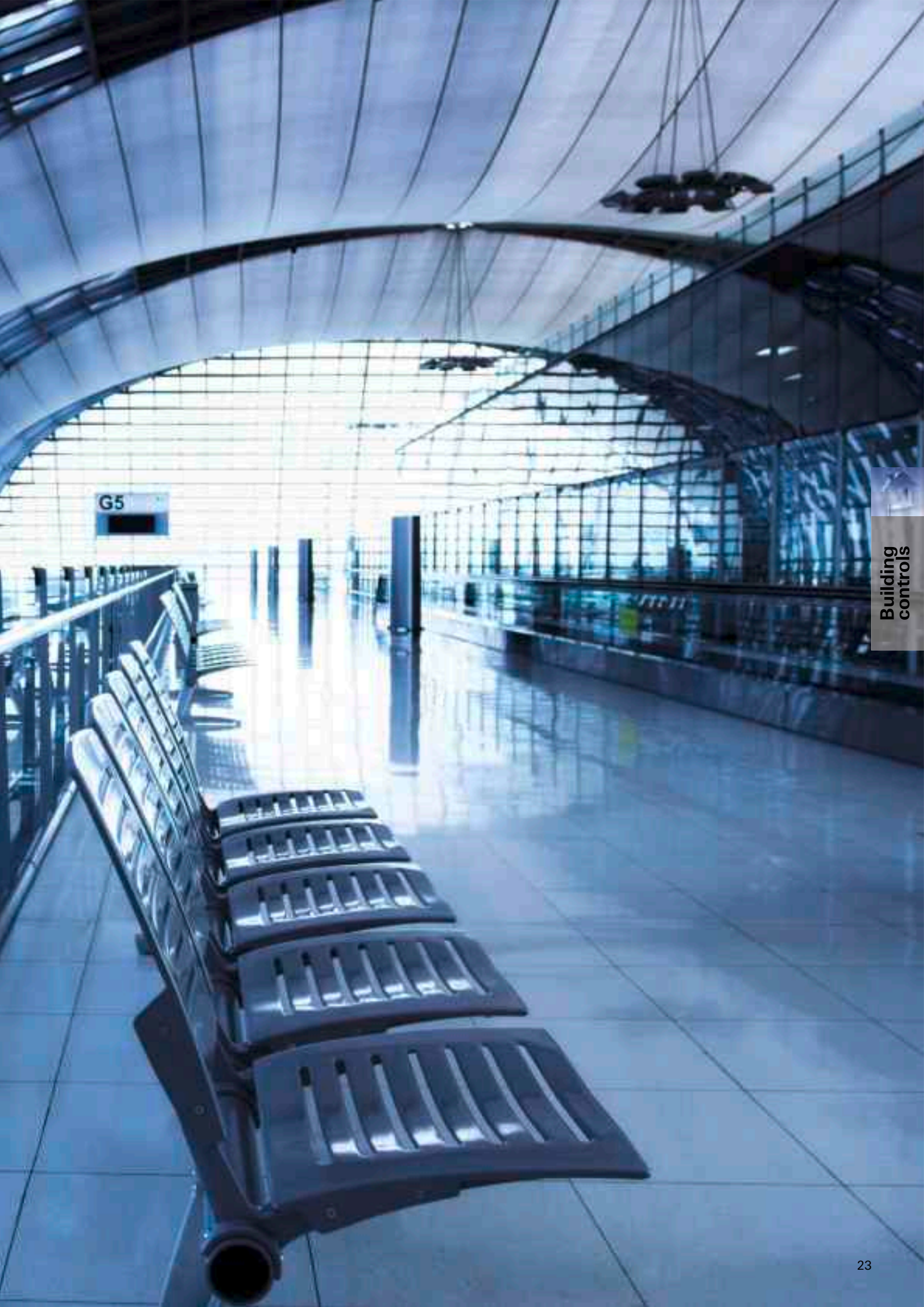
Brochure
gesis®SOLAR –
pluggable components
for solar technology
Part No. 0162.6

Brochure
gesis®MINI –
the pluggable electrical
installation with a
compact design
Part No. 0161.9

A leader in the field of building controls

Wieland Electric is one of the leading suppliers in the field of PC board terminals and connectors. Its market leadership is a result of close relationship with and attention to customers' requirements, as well as the wide product range offering the right solution for almost every application. Customer-specific adaptions and continuous development are what make Wieland products superior on the market.

The wide product portfolio ranging from complete building control systems to customized versions for special functions satisfies all requirements.


G5


EIB/KNX
LON

Applications and **possibilities**

Special features in the field of building controls

Building controls are mostly located centrally in rooms designed specifically to house them. Sub-systems are located locally, e.g. on each floor. These are controlled from the center and distribute the received signals.
Every manufacturer has different controls in terms of design and functionality. The central units, however, are mostly I/O modules with a very high number of possible wiring points. The increasing demands placed on building automation result in the customers' areas of application expanding as well.

Effective production

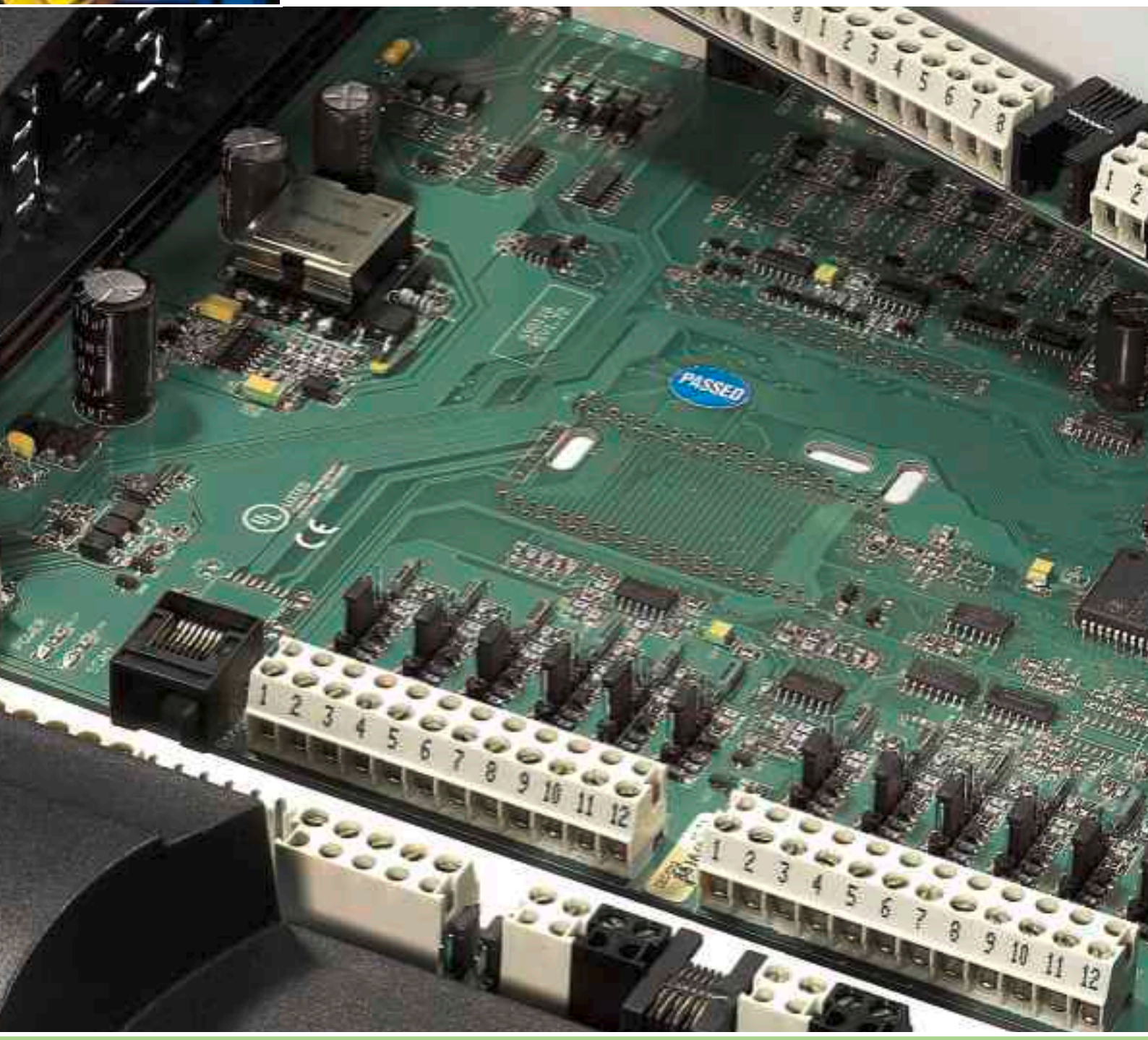
Aiming at cost-optimized production, there is a worldwide demand for pluggable solutions featuring various assembly methods.
The higher the quantities, the more relevant it is to also obtain products featuring various assembly methods for automated production processes (reflow soldering) in process-oriented packaging (Tape on Reel).

If you place value on delivery reliability and a high level of quality as well as worldwide availability, then Wieland is your expert supplier.

Products for the applications:

- Pluggable terminals in a 5.0 and 7.5 mm pitch
- PC board connectors in a 3.5 to 7.62 mm pitch
- Versions for THR

Example of automated PCB assembly.


PASSED

Compact **design** – **safe** installation

A diversity of models for a large variety of uses

Requirements for technical building controls are increasing steadily. There is an ever-increasing demand for monitoring and controlling, which can be effectively managed with modern protocols of building automation. Still, the number of inputs/outputs of the devices is increasing continuously. At the same time, the dimensions of the device should not be increased if at all possible, which is why attention is paid to compact design.

Miniaturization is, however, limited by various requirements. On the one hand, this includes the conductor cross-section of 1.5 mm² and on the other hand, the connection performance for the installer.
Screws, levers, screwdriver openings etc. must not become too small and must be adapted to the tools of the installer. Also, the plug parts must be available in various configurations to ensure that the connection can easily be carried out, whether from the left or from the right or via spring clamp connection or via screw connection.
According to the requirements or regional requirements.
Wieland offers a broad product selection in a 3.5 pitch, where connecting a 1.5 mm² conductor is still possible. In addition, innovative pin headers ensure the highest component density on the PCB.

A wide product range is available in a 5.0 to 7.62 pitch for controlling actuators of 230 V or more. Again with a large variety of pin headers and plug connectors, of course.

If the standard markings are not sufficient, we can arrange customer-specific marking for you at any time.

Convincing advantages:

- Broad portfolio of pin headers and plug connectors
- Broad portfolio of THR pin headers
- Coding possibilities using standard coding material
- Customer-specific marking possible
- High product quality

Building controls are used in public buildings but increasingly also in private households.

Example of a building control device

Example of pluggable PC board terminals

Compact & pluggable –
PCB connection technology

PC board terminals – 8142 Z / 8342 Z

Pluggable PC board terminals differ from PC board connectors in their dimensions and in the pin headers (pinstrip headers) not being protected by an insulating housing.

With these terminals, the housings of electronic devices can be designed in such a way that the pluggable terminals are integrated into them. With the pin header and the pluggable terminal located opposite each other in either the base plate or the cover, they are vertically mated together when the cover is snapped onto the base plate.

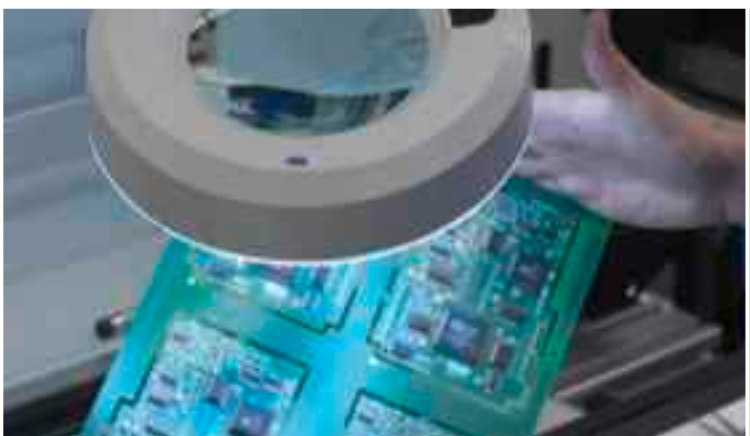
After terminating the conductors and checking that they are connected properly, the top part of the housing can simply be snapped on.

This type of wiring is extremely advantageous because sensitive electronic parts remain safely in the housing and are not subjected to mechanical load during installation. Parallel to the reduction of damage due to mechanical impact during mounting, faults caused by polarity reversal or incorrect connection of signals are also minimized.

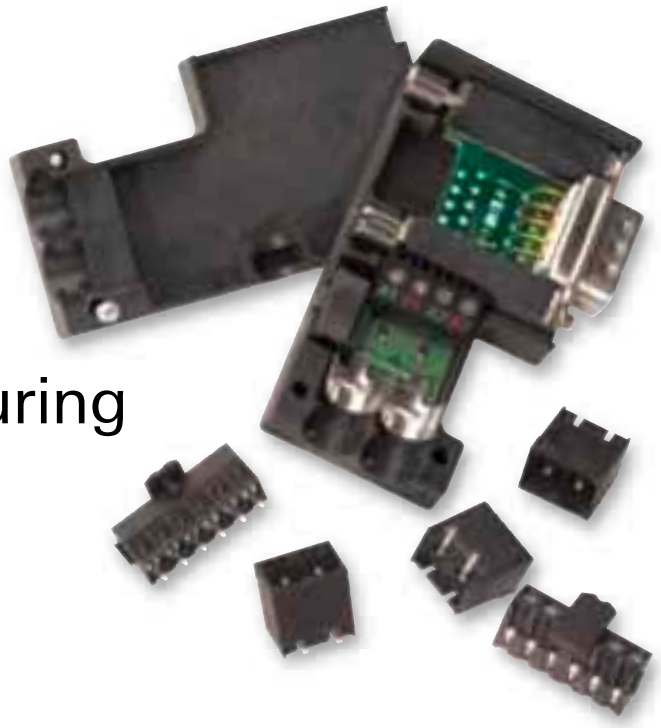
Wieland offers these products in rising cage screw clamp connection, which guarantees optimal connection performance. Repeated terminations as well as clamping of two conductors does not cause any problems here.

Convincing advantages:

- Broad portfolio of pluggable terminals (3.5 – 7.5 mm pitch)
- Compact as a terminal but still pluggable
- Multiple terminations with rising cage screw clamp technology
- Large termination cross section
- Pin headers in THR design available



Solutions for automated manufacturing



Continuously increasing quantities require more and more automation in manufacturing to be able to maintain competitiveness on the market. This is why we also offer you a broad range of products for **THR** processes in the field of PCB connection technology.

Through Hole Reflow (THR)

A robust connection to the PCB is needed for components subject to mechanical load. Components such as PC board terminals or PC board connectors require higher strengths than **SMT*** procedures can achieve. Components of this kind are still manufactured using **THT** processes. **THT*** and **SMT*** should be combined in one process to optimize efficient manufacturing. This was achieved by the Through Hole Reflow (**THR***) process.

During the **THR** process components are mounted on plated-through drill holes and reflow soldered. This process is also known as "Pin in Paste" (PIP). For **THR** the PC board contact points are drilled with through holes. The boards then pass through the standard reflow process. In the first step the solder is applied onto the solder pads and into the drill holes. Then the PC board terminals or headers are mounted with automated pick and place equipment. The pins partially press the solder paste through the hole, forming a solder globule on the tip of the pin.

*****

THT = Through Hole Technology, through-plated design, standard soldering

SMT = surface mount technology, reflow soldering

THR = Through Hole Reflow, through-plated design, reflow soldering

Tape on Reel
Series production,
limited number of versions

Tray
Series production, multiple versions
> 12 poles

Tube
Series production,
bulky products OSD

In the subsequent reflow process, the solder melts and is drawn back into the hole via a capillary action. By this method components demanding high mechanical stability are integrated into the reflow process.

The products available for **THR** can, of course, also be purchased in the usual packaging used for automated manufacture.

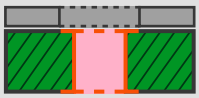
Advantages of THR:

Using THR, through hole and SMT components can be processed

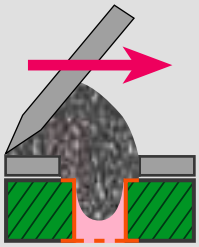
- **In the same work step**
- **in the same process**
- **Using the same equipment**
- **Under the same conditions.**

THR – the procedure:

1 PCBs with plated-through holes

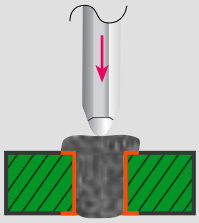


2 Template is positioned

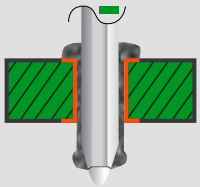


3 Solder paste is applied

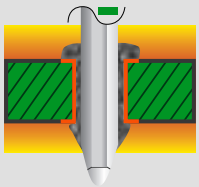
4 Solder paste fills hole



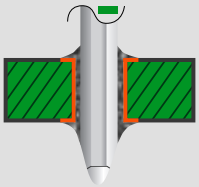
5 Mount component



6 Pin pushes solder paste through the hole



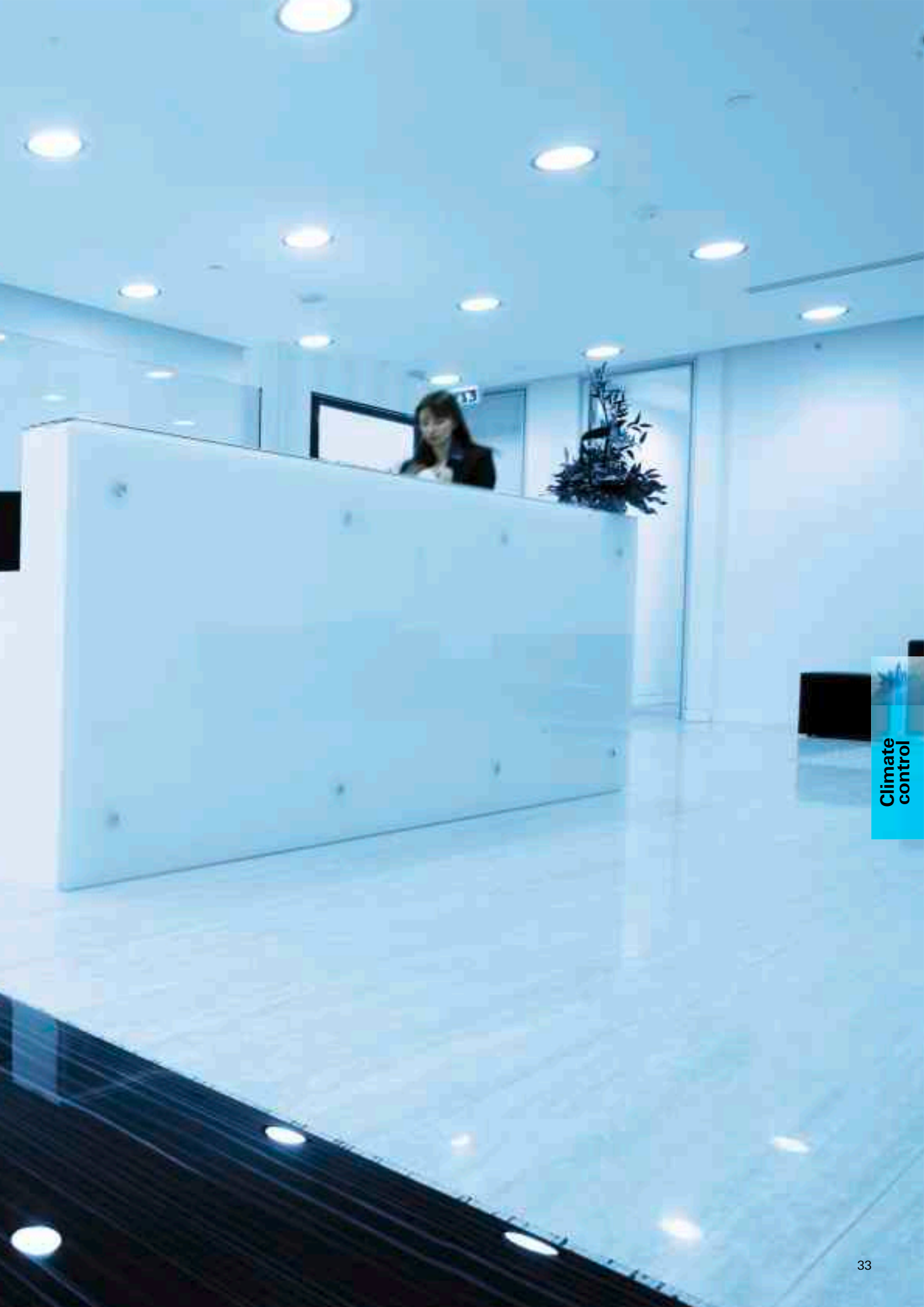
7 Reflow soldering



8 Done!

Expertise for perfect air-conditioning

With their extensive expertise in the field of building controls and as one of the market leaders for PC board terminals and connectors, Wieland has designed a product portfolio dedicated to the applications in the field of climate control, meeting the high requirements of the industry.



Great **climate** with perfect control

Climate control

Nowadays, climate controls can be found in almost every room of modern buildings. They control the climate conditions in, for example, public buildings, greenhouses, offices, hotels and also private households. They measure air temperature, relative humidity and brightness. Using these measurement values, they can control air condition systems, air circulation, air humidifiers, louvers, window openers/ closers or the lighting.

The operating unit is installed in the relevant area in the form of wall mounted devices and communicates with the controller located on the tier, which controls and monitors several zones.
The housings are very similar to those used in access control applications, and can in fact be the very same.

Looking behind the scenes – a climate control device with a compact 5 mm PCB pluggable pinstrip terminal.

Temperatures brought into focus

Areas of application

Wieland products are used in the core of a control unit – the electronics.
The device must be opened for installation.

The housings are mainly wall or panel mounted devices with all the electronic components internal to the housing.
The installation space is limited due to the low profile requirement. The conductors to be connected are mostly 0.5 – 1.5 mm²; two conductors are often connected per termination point. The requirement of connecting two conductors per termination point explains why screw-type terminals are predominantly used here.

Product groups:

According to housing type and requirement, products from the following areas are especially suitable:

- 3.5 pitch PC board terminal
- 3.5 pitch pluggable PC board terminal
- 5.0 pitch pluggable PC board terminal as a snap-in version.

Nowadays, you can find a climate control unit in almost every modern building and also private households.

Terminals for all areas of Applications

PCB assembled onto the base plate

In this version, all the electronic parts are located on the base plate of the housing. For the installation, the cover is removed and the base plate mounted and terminated. The electronic parts are exposed during the entire installation procedure. After terminating, the cover is snapped on again.

Due to the low housing profile, the terminals should be as compact as possible. In many cases in practice, however, two conductors are connected per termination point - which requires a large connection area. This is achieved with a rising cage screw clamp termination.

Products with wire guard screw clamp connection often have contact problems, especially after multiple terminations. Fast and uncomplicated replacement of these devices is required. A pluggable solution is best used here, eliminating the danger of incorrect repair or retrofit. The pluggable terminals in a 3.5 (8543) and 5.0 (8142 Z) pitch perfectly suit this purpose.

In case you do not want to work with pluggable terminals, the 3.5 pitch PC board terminals fulfill all requirements. The 8593 PC board terminals, in particular, provides you with a reliable solution to your applications. It is also available in a THR reflow capable version.

Convincing advantages::

- Broad portfolio of PC board terminals
- Broad portfolio of pluggable PC board terminals in a 3.5 and 5.0mm pitch
- Screw connection using rising cage technology
- Solutions for THR available

Easy to handle

PCB assembled into the housing cover

In this version, all the electronic parts are located on the cover of the housing. The pluggable terminals are snapped into the base plate using special molded-in mounting flanges. The mating pin headers are located on the board.
The cover is removed for installation, the base plate mounted on the wall and the terminals are connected.
The cover with the integrated electronic components is undisturbed during the installation. Once terminated, the cover is simply snapped on with the pin headers plugging into the terminals.

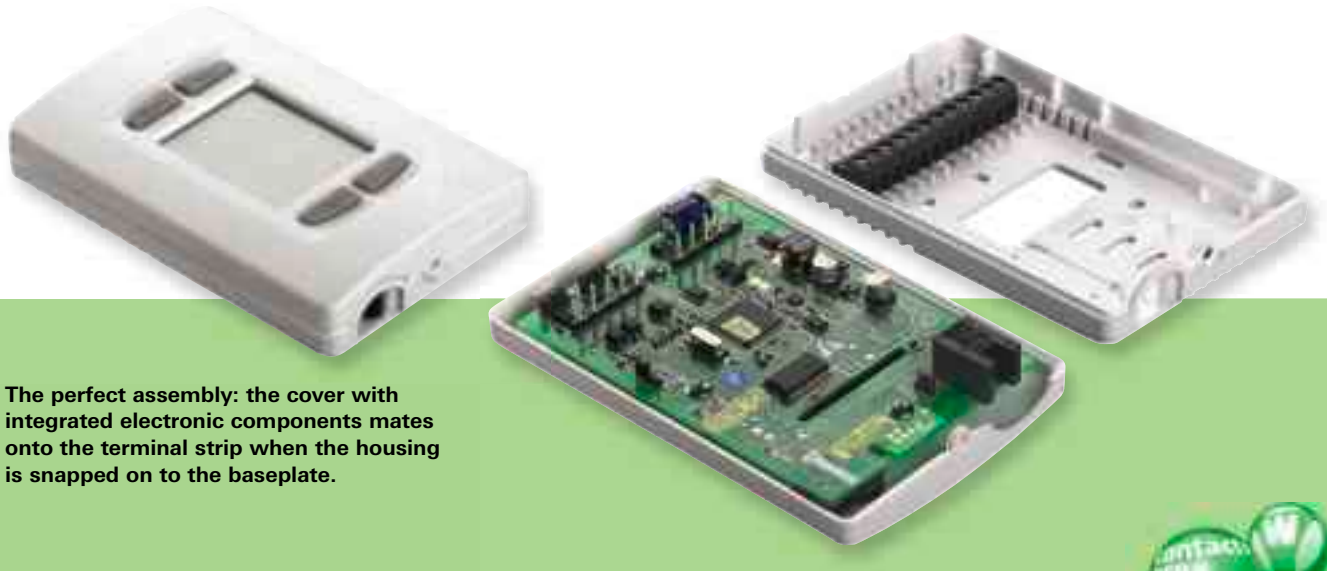
The great advantage of this design is that a conductor does not need to be disconnected or a connector does not need to be pulled in case of a necessary replacement of the control unit. This task can then also be carried out by trained personnel.

Due to the low profile housing design, the terminals should be as compact as possible. In many cases in practice, however, two conductors are connected per termination point. This requires a connection area which is as large as possible, which is realized by way of a screw connection using rising cage technology. This ensures multiple terminations without any problems.

There are two different mounting flange versions available for mounting into housings.

Convincing advantages::

- Broad portfolio of pluggable PC board terminals in a 3.5 and 5.0 mm pitch
- Screw connection using rising cage technology
- Solutions for THR available



The perfect assembly: the cover with integrated electronic components mates onto the terminal strip when the housing is snapped on to the baseplate.

Support ⓘ Consultation

Hotline numbers

Sales: **Phone**

Questions for the Sales Department on delivery availability, delivery time and prices: +49 951 9324-990

Technical customer consulting:

Technical questions on product properties and possible uses of our products as well as how they function and accessories:

Automation technology sector:

- DIN rail terminal ***fasis, selos, taris***® +49 951 9324-991
- Safety technology ***safety*** +49 951 9324-999
- Distributed I/O, power supply, overvoltage protection, Measurement relays and monitoring relays, time relays, coupling relays, analog modules, interface modules ***interface*** +49 951 9324-995
- Decentralized power distribution ***podis***® +49 951 9324-998
- Industrial multipole connectors ***revos*** +49 951 9324-997
- Device terminals, European terminal strips, empty housings +49 951 9324-993
- PC board terminals ***wiecon*** +49 951 9324-994

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Building installation technology sector:

- System connectors for building installation ***gesis***®, ***gesis***® ELECTRONIC +49 951 9324-996
- DIN rail terminal blocks ***fasis***BIT, ***selos***BIT +49 951 9324-992

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Industrial technology

Solutions for the control cabinet
- DIN rail terminal blocks
  - Screw, spring clamp or IDC connection technology
  - Wire cross sections up to 240 mm²
  - Numerous special functions
  - Software solutions interfacing to CAE systems
- Safety
  - Safety sensors
  - Safety relays
  - Modular safety systems with fieldbus link
- PLC and fieldbus components
  - Standard applications in IP 20
  - Increased environmental conditions with railroad and ship approvals
- Interface
  - Coupling relays, semiconductor switches
  - Measuring and monitoring relays
  - Timer and switching relays
  - Analog modules
  - Passive interfaces
  - Power supply units
  - Overvoltage protection

Solutions for field applications
- Remote automation technology
  - Power distribution
  - Fieldbus interfaces and motor starters
- Connectors for industrial applications
  - Square 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
  - Combined connectors
  - Low-voltage connectors
  - Power distribution system with flat cables
  - Distribution systems
  - Bus systems in KNX, LON and radio technology
  - DIN rail terminal blocks for electrical installations
  - Overvoltage protection

contacts are green.

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Product Range