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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 mm<sup>2</sup>
- 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 IP20
- 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 IP68
- Current-carrying capacity up to 100A
- 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

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# **Product Range** contacts are green.

**Always Well Matched** 



**Electro-technical Solutions for the Control Cabinet** 





#### Active worldwide

With its staff of almost 2,000 employees, the Wieland Group is at home on all continents. Subsidiaries in Great Britain, France, Spain, Italy, Poland, Canada, the USA and also in China speak for themselves. With a great number of representatives, Wieland Holding is active in almost all strategically important countries. Just a medium-size global player with a clear commitment to the German location where most of the products are still manufactured.

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- Photo of the Bamberg headquarters
- Sales and Marketing Center in Bamberg

# The Wieland Group Competence and know-how

### One company group, a thousand opportunities

The philosophy of the Wieland Group with its headquarters in Bamberg can be summarized that simply. The independent subsidiaries, Wieland Electric and STOCKO Contact, are active beneath Wieland Holding.

Together they cover an extraordinarily wide product portfolio in the field of electrical engineering and electronics. It comprises control cabinet engineering, industrial multipole connectors as well as overvoltage technology and building system technology.

Wieland Electric is active in most areas of automation technology and delivers as the industry's driver for innovation. Safety first – Wieland Electric is ideally positioned with its modular system solutions such as *Series 4000, samos*<sup>®</sup>, *samos*<sup>®</sup>PRO and the new *sensor* safety sensors. *podis*<sup>®</sup>, the solution-oriented system for remote power distribution, and *ricos* TP, the latest development in the field of automation systems for heavy duty industrial requirements, are only two examples.

In the building installation system sector, Wieland Electric, with its **gesis**<sup>®</sup> system, is the world market leader in pluggable electrical installation. With good reason do planners and architects of the tallest and most interesting construction projects worldwide, such as the Petronas Towers in Kuala Lumpur, rely on **gesis**<sup>®</sup> components from Wieland. Wieland is the pioneer on a path toward the intelligent home by consistently developing its **gesis**<sup>®</sup> product range, especially with regards to the demands of electronic networking. Wieland Electric was founded in 1910 in Bamberg. With 1350 staff members it is the largest subsidiary within the company group of Wieland Holding. With its numerous innovations, Wieland Electric has become a major supplier of electrical connection technology. Export share is currently at 58%.

STOCKO Contact is located in North Rhine-Westphalia's Wuppertal and has been a member of the Wieland Group since 2001. The company can look back at a history of more than 100 years. STOCKO Contact is one of the biggest European manufacturers of connector systems and crimp contacts.

# Almost 100 years young and full of innovative energy...

this is the foundation of our company philosophy.

From this statement Wieland Electric will not just maintain, but expand its social responsibility into the future. Eco-friendly high-tech products, manufactured according to state-of-the-art production standards, an audited environmental management system and extensive investments in our facilities with cuttingedge environmental technologies are a matter of fact. A company policy that also commits us to the long term responsibility for the future of our families and children, as well as for the city of Bamberg, in addition to innovative system solutions for our customers.

In our opinion, worldwide action and regional responsibility are united.



 STOCKO headquarters in Wuppertal



## **Control Cabinet Solutions for all Industries**

**Building synergy is our strength** 





Industries

# **Packaging machines**



**Machine tools** 





# **Building automation**



# Power generation and distribution



# **Keeping Packaging Machines Running**

**Production safety in real time** 











### **Safety in series**

Reliable and innovative solutions provide maximum quality and safety without impairing the system's productivity and availability.

Safety for applications	
Sensors	SMA magnetic switch, SNM emergency stop button
Series 4000	Safety switching devices for all applications
samos	Modular safety control
	Parameterization with a screwdriver
samos PRO	Compact safety control



### **Reliable power for control systems**

The **wipos** series includes power supply units which play a major role inside the control cabinet. Their reliability has a great impact on the operational availability of the machine and therefore the process. Consequently a robust power supply with a proven design is essential.

<i>wipos</i> switch-mode power supply unit		
Number of phases	1 to 3 phase	
Rated current	1.25 40 A	
Power	100% up to +60 °C	
Temperature range	−25 +70 °C	
Connection style	Daisy chaining or parallel connection possible	
Power Factor Correction	yes	

# **Quality for Machine Tools**

**Resource protection** 







### Pluggable system installation

plug & play inside the control cabinet. *fasis* CON is a DIN rail terminal block system with pluggable output. Pluggable connections result in time savings and cost reductions during installation, commissioning and servicing. Quick and error-free installation is guaranteed using factory built terminal block assemblies and pluggable wire harnesses.

#### fasis DIN rail terminal blocks with spring clamp terminations

and plug-in connections		
Wire range	4.0 mm <sup>2</sup>	
Rated current up to	32 A	
Rated voltage	500 V	
Width	only 5 mm	
System	Can be combined with <b>fasis</b> WKFN	
Accessories	See fasis	





lare

### Switching and coupling signals

The mechanical *flare* relays are available in various designs, and are used for switching and decoupling of loads. They switch and amplify digital signals in automation technology and are used for electric isolation between the control and load circuits.

<i>flare</i> relays		
Rated current	0.02 16 A	
Contacts	1 normally open contact, 4 change-over contacts	
Wiring technique	Screw and spring clamp technology	
Temperature range	−40 +70 °C	
Design	Relays, pluggable or enclosed	
Approvals	UL, CSA, railway approval, GS	

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Power Factor Correction (PFC) technology	yes	

# **Power Distribution in Building Automation**

The core of supply



### **Application**



### **Power feed-in**

selos WKI – Installation blocks with screw termination. A feature most important in the feed-in, and for the connection of larger cross sections, the side wire entry of the screw termination offers superior handling during termination and wire routing.

selos DIN rail terminal blocks		
Wire range up to	50 mm <sup>2</sup>	
Height	For small and field distribution units with covers	
Terminal block	Three-tier installation blocks up to 4.0 mm <sup>2</sup>	
System	Can be combined with <b>fasis</b> WKI	



wietap

### **Power distribution**

fasis WKI – Installation blocks with spring clamp terminations and plug-in connections for distribution cabinet wiring in public buildings in accordance with DIN VDE 0100 or DIN VDE 0108.

#### fasis DIN rail terminal blocks with with spring clamp terminations and plug-in connections

	Wire range up to	16 mm <sup>2</sup>
	Terminal block	Neutral disconnect blocks up to 16 mm <sup>2</sup>
		Three-tier installation blocks with tension spring
		and direct connection
	Height	For small and field distribution units with covers



### **Surge protection**

wietap systems are surge protection devices for voltage and signal interference; they protect electrical and electronic systems against high-power overvoltage (caused for example by lightning strikes).

wietap surge protection		
Discharge capacity up to	100 kA, type 1 to 3	
Modules	Pluggable, vibration-proof and shock-proof in accordance with EN 60968-2	
System	for all networks which are energy coordinated	
Function/fault display	According to VDE 0100-534 for each path	
Fuse protection	Through follow current limitation	
Temperature range	−40 +80 °C	



### Switching and coupling signals

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# **Mastering Power Engineering**

**High loads included** 





# Application

Selos POWER	<b>Power feed-in</b> The DIN rail terminal blocks of <b>selos</b> POWER LINE have been designed particularly for applications in the high-current range. The proven screw connection is available as stud-type rising cage clamp or hybrid connection. With extensive accessories <b>selos</b> POWER can be optimally applied to various power distribution tasks.	
	<b>selos</b> – DIN rail termina Rated cross section up to Rated current up to Rated voltage Connection style	al blocks with screw connection 240 mm <sup>2</sup> 415 A 1,000 V Stud-type connection, rising cage clamp connection, hybrid solutions
selos	Power distribution The DIN rail terminal bloc is solid and functional, kn of times. The variety of di applications of all kinds. S forces with low contact re selos - DIN rail termina Rated cross section up to Rated current up to Rated voltage up to Approvals Terminals, industry-specific	And measurement Sk with the classic screw connection: <b>selos</b> nown worldwide and has been used millions ifferent products provides solutions for Screw technology guarantees highest contact esistance. I blocks with screw connection 240 mm <sup>2</sup> 415 A 1,000 V UL, CSA, ATEX Measuring disconnect blocks
	Pluggable system revos SLIDE is a 24 pole of requiring blind mate and a secure and automatic m applications. revos industrial multipe Rated current Rated voltage Rated cross section	installation connector for rack and panel applications float capabilities. The guide pins guarantee nating of the connector for slide-in panel ole connectors 10 A 250 V 1.5 mm <sup>2</sup>



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# **Product Solutions for the Control Cabinet**

Motion, safety, and strength









# **Innovative DIN Rail Terminal Blocks** Power supply and signal distribution

DIN rail terminal blocks are the standard connection component in all areas of electrical engineering. Whether in machinery or power supply applications, DIN rail terminal blocks are used for signal and power distribution as well as for the conventional electrical installation of buildings.

Due to their high mechanical strength and contact stability the DIN rail terminal blocks from Wieland are particularly suitable for our customers' requirements.

# DIN rail terminal block product lines from Wieland Electric for worldwide use:

- fasis DIN rail terminal blocks with spring clamp and plug-in connection
- selos DIN rail terminal blocks with screw connection
- *taris* DIN rail terminal blocks with IDC connection

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.





# **Combined Model for Industry**

revos connections are reliable



The *revos* industrial multipole connectors are classified according to their housings, contact inserts and connection technology. A broad standard product spectrum as well as modular components that can be combined individually are available:

### A broad standard product range, as well as modular components that can be custom assembled, are available:

- *revos* BASIC with 6 to 92 pole contact inserts
- **revos** POWER, high-current connectors for currents up to 100A
- **revos** HD, high-density connectors with up to 64 poles and up to 10A
- **revos** FLEX, a modular hybrid connector system for application specific solutions combining selectable contact inserts, for signal, pneumatic, and fiber optic connections.
- *revos* BASIC EMV, for applications where electromagnetic interference must be protected against both ingress and emission.



Industrial multipole connectors are specifically designed for applications in extremely rough environments.

Misland

**revos** handles even the toughest jobs, because the powder-coated aluminum housings protect against mechanical wear and prevent ingress of spray and splashing water, as well as dust.









# Reliable Power Supply

Pure power with no ifs, ands, or buts



Power supply units play a central role inside the control cabinet. Their reliability has a great impact on the operational availability of the machine and therefore the process.

Consequently it is essential that a power supply unit is robust and has a proven design. Our **wipos** series provide no-frills power supply units which get high marks for important features.

### wipos is convincing in the major features:

■ 100% output at up to 60 °C

🔊 wieland

wipos P1 24-5

- Automatic or wide voltage input for worldwide use
- PFC technology for high functional reliability
- Outdoor installation is possible due to the large temperature range
- Active monitoring with switching output
- Parallel wiring at 5A for increased power and redundancy
- High operational safety due to long power buffering time > 30ms
- Voltage drop compensation due to adjustable output voltage
- Easy commissioning due to LED diagnostics



Therefore, our product range includes single-phase to three-phase devices for DIN rail mounting in the performance classes from 1.25 A to 40 A DC for nearly all applications possible.







wietap

# Immunity from Overvoltage

**Protection for your systems** 



With its considerably expanded product range **wietap** for surge protection in control cabinets and sub-distribution units of machines or buildings, as well as for photovoltaic installations, Wieland Electric offers comprehensive solutions.

The modular DIN rail mount components include the ready to connect 3-phase Combi-Arrestor **wietap** vm for the main power supply, to the surge protection module **wietap** GM for sub-systems, as well as the **wietap** RM for control cabinets or machines.

All components are designed for operating temperatures between -40 and 80 °C and provide a high discharge capacity. They are optionally available with a remote signaling contact.

### Characteristics of *wietap*: Very short response time and high discharge capacity

- Electrically coordinated product families
- Highest discharge capacity up to 100 kA, type 1 to 3
- No tripping of fuses, therefore follow current limitation
- Pluggable protection modules with easy to release locking mechanism
- Vibration-proof and shock-proof in accordance with EN 60068-2
- Visual function/fault display for each circuit according to VDE 0100-534
- Protection modules are simple to remove and replace, no tool required
- Can be used upstream of the meter, too

Surge protection devices protect electrical and electronic systems against high-power overvoltage (caused for example by lightning strikes).









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# **To Serve and Protect** Switching without disruption

In control, traffic or production engineering, coupling

relays have performed important tasks reliably for

Combined with control systems they provide numerous options to make your application even

more safe and less sensitive to disturbances.

Far from it!

many years.



- Safe electrical isolation
- Pluggable and compact solutions
- Mount securely onto 35 mm rails
- Optionally available with gold-plated contacts
- Both screw and spring clamp terminations
- Indication and EMC suppression modules available
- Also for railway applications according to EN 50155

Interface relays provide electrical isolation and potential-free switching capabilities (and are pluggable









# User-Friendly Safety is a matter of trust



Nowadays, the requirements for systems and machines are high. However, in addition to the productivity and efficiency of a system or machine, ever increasing emphasis is placed on the safety of the process and its operators.

The design of modern facilities and machinery must also account for the safety of the personnel who will work with the machines or processes.

Reliable and innovative solutions are demanded, and must fulfill these important requirements without negatively impacting productivity, or availability of the system, or the means of transportation. With its

#### SMA and SNH series, its Series 4000, samos®

and **samos**<sup>®</sup>PRO Wieland Electric provides top-quality safety components which contribute greatly to safety requirements during both the construction and operation of modern facilities and machinery.

An investment in **samos**<sup>®</sup> pays off even with only a minimum of safety circuits. And, as your safety requirements increase, you will be able to expand with the same safety system, because **samos**<sup>®</sup> is modular and flexible.

It is even easy to parameterize the modules: You will not need any software; just set the desired safety functions directly on the device (and read them from there, too) using a screwdriver. A clear and simple solution. With *samos* PRO Wieland Electric also provides an alternative with a PC-programmable safety control, which leaves nothing to be desired.





# **Always the Proper Entrance** Flexible from module to module



Cable feed-through modules from Wieland enable the quick and simple feed-through of network cables or any pre-assembled wire harnesses into the control cabinet. The cables are sealed using symmetrical grommets, which are seated into the housing frame entries, without any special tools. The entire system maintains a protection degree of IP 54.

Even data cable feed-throughs sometime require the protection of a heavy duty rectangular housing. *revos* IT is the ideal solution. Pre-assembled cables can be passed through the panel, with water tight protection and strain relief.



# Trouble-Free Field Wiring

**Solutions provided across the product range** 





### gesis<sup>®</sup>IP+

### Round connectors for rough environments

The successful **gesis** installation concept is now applied to rough environments, too. Whether in system technology, for outdoor lighting, on construction sites, in solar systems or in nonresidential buildings: **gesis** IP+ with IP65...IP68 protection withstands even the toughest conditions.



# podis<sup>®</sup>

### **Remote automation**

**podis** CON represents the family of passive components within the **podis** power bus system. The 7 pole flexible flat cable is the base upon which additional components are connected, without interruption, via insulation displacement terminations. **podis** CON includes all passive connectivity modules for both fixed and pluggable power drops.



### gesi

### **Extensive building installation**

**gesis** – one name, one idea, an unparalleled success story! With its pluggable electrical installation system Wieland Electric has been the unchallenged market leader for 30 years. No wonder since time savings of 70 % and cost reductions of 30% continue to speak for themselves.



# **Individual and Customized**

**Ready for use** 





# Solution specific, value added assembly

### **Terminal block assemblies**

For those who want to make their control cabinet work easier Wieland Electric pre-assembles completely equipped DIN rail terminal block assemblies, even with the cables connected, if required.

### **Cable assemblies**

Individual cables tailored to your needs and combined with various components can be delivered for your project in all lengths.

### **Control and distribution panels**

Our value-add departments will gladly assist you in selecting individual Wieland components, or in laying out complete panels, which we can also build for you.

# Interface modules – solution specific connectivity

Each control cabinet requires distribution functionality. In most cases this is accomplished with standard control panel wiring (0.5 mm or 1.5 mm fine stranded with ferrule) to standardized interfaces (d-sub or ribbon cables). Upon the customer's request Wieland Electric can design individual and customized solutions for all applications, too.





# **Control Cabinet Solutions from Wieland**

**Additional information** 

### Hotline numbers in Sales:

Questions on availability, delivery date and prices will be answered by Sales at Phone: +49 951 9324-990

### **Technical support:**

For technical questions on product features and applications of our products as well as their functionality and accessories

### Automation technology:

- DIN rail terminal blocks fasis, selos, taris<sup>®</sup> Phone: +49 9 51 93 24-991
- Safety technology safety Phone: +49 9 51 93 24-999
- Remote I/O ricos Phone: +49 9 51 93 24-995
- Power supply, surge protection, measuring and monitoring relays, timer relays, coupling relays, analog modules, passive interfaces *interface* Phone: +49 9 51 93 24-995
- Remote power distribution *podis*<sup>®</sup> Phone: +49 9 51 93 24-998
- Industrial multipole connectors revos Phone: +49 9 51 93 24-997
- Appliance terminals, European terminal strips Phone: +49 9 51 93 24-993
- Housings for electronic components, PCB terminals and connectors *wiecon* Phone: +49 9 51 93 24-994

Fax: +49 9 51 93 26-991 e-mail: AT.TS@wieland-electric.com

### **Building Automation Technology:**

- System connectors for building installation gesis<sup>®</sup>, gesis<sup>®</sup> ELECTRONIC Phone: +49 9 51 93 24-996
- DIN rail terminal blocks *fasis* BIT, *selos* BIT Phone: +49 9 51 93 24-992

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General information and news: www.wieland-electric.com Visit our e-catalog under www.wieland-electric.com

# Additional information on control cabinet solutions:

### **DIN rail terminal blocks**

with screw connection with tension spring clamp	Part No. 0125.0	
connection	Part No. 0124.0	
for junction boxes	Part No. 0117.0	
<b>Interface</b> <i>safety</i> first catalog and <i>safety</i> for all applications	Part No. 0156.0 Part No. 0152.0 Part No. 0152.5	
Industrial multipole connectors		
<i>revos</i> 3 – 48 pole	Part No. 0078.6	

### Information on pluggable installations:

for industry podis	Part No. 0158.0 and 0158.2
for building installation	
<b>gesis</b> con	Part No. 0167.1
	and 0161.9
gesis IP+	Part No. 0161.5
for solar technology	

**gesis** solar

Part No. 0162.3, 0162.4 and 0162.5



# **Our subsidiaries**

... and the addresses of our representations worldwide are available at: **www.wieland-electric.com** 



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