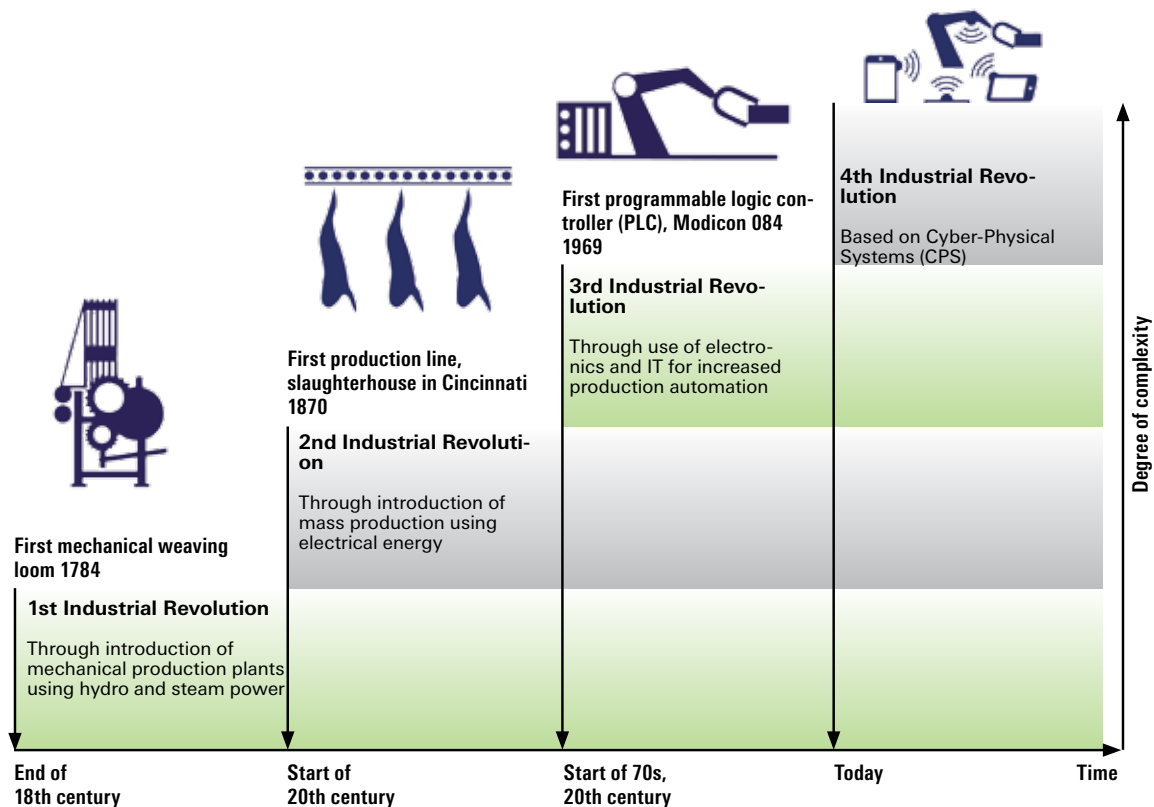# Innovations SPS 2016

**System solutions for
installation and automation technology**

wieland

Industry 4.0
The four stages of industrial development

First programmable logic con-troller (PLC), Modicon 084 1969

4th Industrial Revo-lution

Based on Cyber-Physical Systems (CPS)

3rd Industrial Revo-lution

Through use of electro-nics and IT for increased production automation

First production line, slaughterhouse in Cincinnati 1870

2nd Industrial Revoluti-on

Through introduction of mass production using electrical energy

First mechanical weaving loom 1784

1st Industrial Revolution

Through introduction of mechanical production plants using hydro and steam power

Degree of complexity

| End of 18th century | Start of 20th century | Start of 70s, 20th century | Today | Time |

Source: DFKI 2011

On the way to intelligent and flexible production

The Internet of Things (IoT) is generally seen as the next stage of Internet development. Ultimately, this involves the direct communication of physical objects in the everyday milieu (e.g., household appliances, lamps, bicycles) or in the industrial production sector (e.g., machines, workpieces and products) with each other via Internet technology without the need for human intervention. Moreover, Internet-capable end devices and sensors such as smart-phones or data glasses make humans a part of this network. In the industrial environment, one speaks of Industry 4.0, or the Industrial Internet of Things (IIoT). Today, about 30 billion devices are expected to be connected to the Internet by 2020.

Industry 4.0

In Industry 4.0, production meshes with ultra-modern information and communication techno-logy. The driving force of this development is the rapidly increasing digitalization of the economy and society. Digitalization is permanently changing the way future production and processing are carried out in Germany: After steam machines, production lines, electronics and IT, now intelligent factories (the „smart factories") shape the fourth Industrial Revolution.

Wieland Electric and Industry 4.0

Wieland Electric offers numerous opportunities to expand the appropriate infrastructure for realizing customer applications regarding Industry 4.0.

- Flexible installation concepts
  - Innovative and flexible energy distribution for modular production with the flat cable system *podis*®
  - Pluggable installation of energy and signals with the circular connector system *RST*®
  - Pluggable installation of sensors and actuators with the M8/M12 connector system *saris*®
- High availability, secure and fast communication solutions *wienet*
  - Ethernet switches
  - VPN network router (Internet access for LAN, WLAN or mobile radio)
  - VPN server for user-friendly VPN device management
- Secure power supply for the highest availability
  - Switching power supplies *wipos* PS1 and *wipos* PS3
  - Redundancy module *wipos* R20 for reliable parallel switching of your power supplies
  - Uninterruptible power supply *wipos* UPS
  - Overvoltage protector *wietap*
- Innovative safety controller *samos*®PRO COMPACT with Ethernet interface.
  Supports ProfiNet, ModbusTCP, EtherCAT and EthernetIP

Remote maintenance

Wieland Electric and Industry 4.0

wieplan CLICK*2*BUY

We offer a comprehensive service portfolio to supplement our products. Our new planning tool *wieplan* CLICK*2*BUY for planning and configuring DIN rail terminals and our express assembly service for complete modules make working with Wieland terminals easier and create genuine added value.

Features

• Interface and data exchange with all current CAE systems
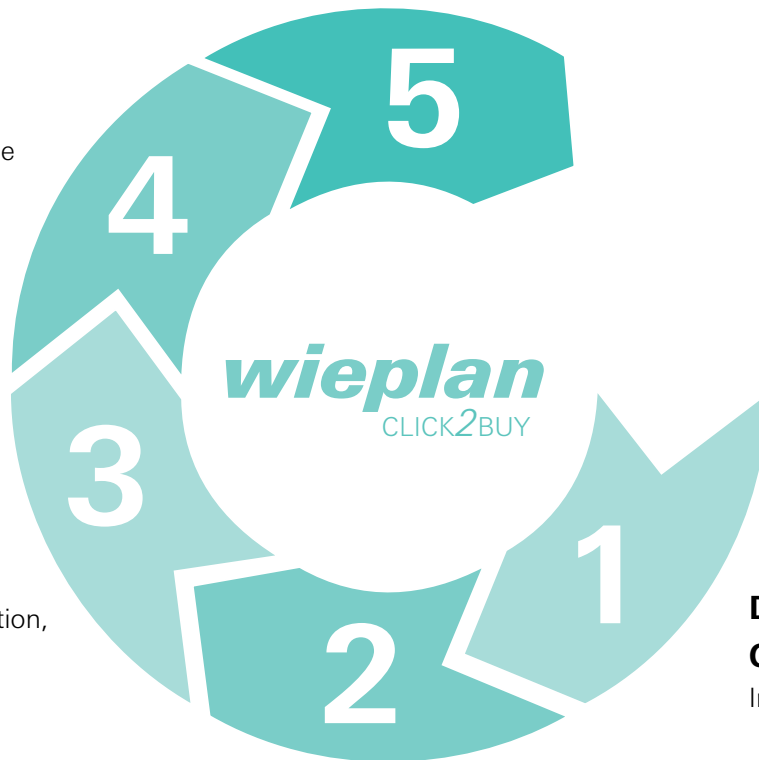• Documentation in 2D and 3D formats
• Pricing and ordering online

Express delivery service
in 5 workdays maximum

Immediate pricing
Online ordering service

Documentation
Complete documentation, including 3D data

wieplan CLICK*2*BUY

Design in CAE system
Interface to *wieplan*

Product selection in *wieplan*
Simple, intuitive operation

fasis WTP – DIN rail terminals with push-in connection

The compact construction as well as the high-performance contact technology of *fasis* WTP reduce installation time and storage to a minimum.

NEW:
fasis WTP with 'Smart Push-In'

Features

- Tool-free push-in connection
- Reduced actuation forces
- fewer terminal blocks – same functionality
- Integrated release lever

wieprint – The marking system from Wieland Electric

Individual marking thanks to Wieland's *wieprint*. It's a high-performance marking system with which you can professionally create labels, from individual marking tags to serial marking, for your terminal blocks. In addition, you can also print stickers, labels or cable markings for all applications in the control cabinet.

Features

- Versatile – for marking of DIN rail terminal blocks, conductors and many other control cabinet components
- Thermal transfer print for high quality, durable marking
- High print speed – up to 8500 tags/hour
- Automatic operation, including magazine, possible

Information about these products:

0500.1   *selos/fasis* – DIN rail terminal blocks with screw, tension spring and push-in connection technology
or at https://eshop.wieland-electric.com

samos®PRO COMPACT PLUS

The new PLUS variants of **samos**®PRO COMPACT offer enhanced functionality, such as certified function blocks for the safe automation of mechanical or hydraulic presses.

Features

- Function blocks for eccentric presses
- Function blocks for hydraulic presses
- Function blocks for all operation modes of presses
- Ethernet IP intergrated
- EtherCAT Gateway

SP-DIO84

The new standard I/O module for **samos**®PRO using these modules non-safety-related automation tasks can be realized efficient and cost-optimized.

Features

- Four standard inputs
- Four standard outputs
- Four configurable standard in- and outputs

STS – Safe Transponder Switch easy cascading

The new M12 accessory for the safe transponder switches make the wiring even easier.

Features

- IP67 protection rating
- Cascading to PL e / Category 4
- M12 connection
- Tool-free mounting

Information about these products:

0860.1   **safety** – System solutions for automation technology
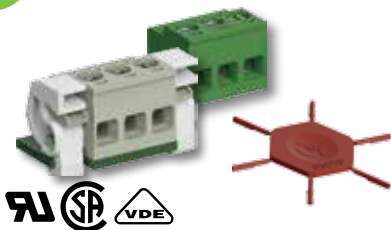or at https://eshop.wieland-electric.com

podis®LED HIFLUX

Maintenance-intensive areas with high light requirements in machines can be ideally illuminated with this LED lamp. *podis*®LED HIFLUX is enormously space-saving but still extremely bright (6000 lm). It can easily replace a 2x58 W diffuser with 150 cm fluorescent lamps.

Features

- Luminous flux 6000 lm
- Compact outside dimensions, 10 x 30 cm base area
- Pluggable, connection-ready with RST16i3
- Adjustable direction of beam ±45°

wiecon 8142 ZP

The new rising cage terminal with a pitch of 5 mm now offers even more advantages compared to conventional products on the market. A current-carrying capacity of 12 A, great reliability with the connection torque and an extremely large cross-sectional range are just a few of the many benefits that this new terminal offers. And it does so with tiny dimensions.

Features

- Best type of connection
- 20 % higher current-carrying capacity
- Extremely large cross-sectional range from 0.14 mm² to 2.5 mm² fine-stranded
- Tulip contact for optimum contact properties

revos BASIC M Housings

The *revos* BASIC M housing series was designed especially for use in robust environmental conditions. The connectors are now even more long-lasting, better resist penetrating moisture, and are even more convenient to handle.

Features

- Protection class IP66
- Very easy and low-wear locking
- Corrosion protection NSS >1500 hrs according to DIN EN ISO 9227
- Chemically and UV-resistant seal
- Locking lever and bolt made of stainless steel

Information about these products:

0830.1   *podis* – Decentralized Automation Technology
0580.1   *wiecon* – Printed Circuit Board terminals and connectors Overview
0530.1   *revos* – Industrial Multipole Connector Catalog
      or at https://eshop.wieland-electric.com

RST®

RST®**POWER** with CSA approval

RST® POWER connectors are not only inspected and approved by the VDE licensing agency according to DIN EN 61984, they are now also inspected and approved by the CSA testing laboratory according to the UL 1682 standard and parts of CSA C22.2. So, there is now nothing to prevent application in North America or in many other countries.

Features

• 4-pole and 5-pole connectors
• Up to 50 A and 400 V
• Compact and robust design and intuitive use
• According to UL 1682 and CSA C22.2 No. 0-10 & 182.1-182.13

RST®**CLASSIC** with IEC Ex approval

Not only in the chemical industry or mining, protecting against explosion is a major issue, but even in broad areas of the manufacturing industry, carpentry businesses or large bakeries; anywhere where dangerously high concentrations of gas/air or dust/air mixtures arise. *RST*® connectors are ready for this.
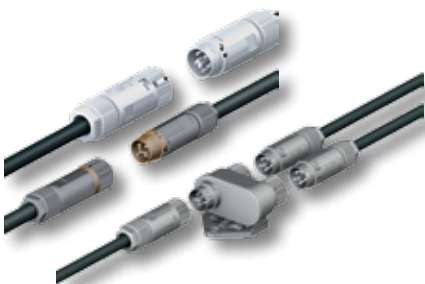
Features

• CE1258 ⟨Ex⟩ II 3G Ex ec IIC T6 Gc
• CE1258 ⟨Ex⟩ II 3D Ex tc IIIC T85 °C
• Dc IECEx SEV 15.0024 X
• SEV 07ATEX0110X

RST®**MINI**

Smallest installation connector with highest IP protection. With the new *RST*® MINI series, Wieland Electric creates a 3rd dimension of its successfully established *RST*® round connector system. The distribution terminal block with multi-fastening plate distributes for 2- to 5-pole variants

Features

• 16 A, 250/400 V
• IP66/68 (3m; 2h)/69K
• Newly developed TWISTLOCK locking technology
• 19.9 mm diameter (2- and 3-pole) as well as 24,9 mm (4- and 5-pole)

Information about these products:
0690.1   *RST*®Pluggable electrical installationin highest protection (IP6X)
              or at https://eshop.wieland-electric.com

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saris® – Pre-assembled products

The preassembled products of *saris*® M8/M12 product line offer the ideal solution for the field installation.
The large number of possible combinations offers an almost boundless variety of installation topologies for any application.

Features

- Simple and intuitive operation
- Pre-assembled valve connectors and distributor
- Safety by 100% tested products

saris® – Field-wireable connectors M8/M12

The M8/M12 connectors are also available field-wireabled. Cables can be connected quickly and safely with IDC termination.

Features

- Mechanical coding eliminates mismating
- High IP65/67 protective class for use in rough conditions
- Quick and safe connection thanks to reliable IDC termination technology, now also for shield cables

saris® M8/M12 housing feed-throughs

The housing feed-throughs in the *saris*® range make it very easy to plug together devices of any kind. This keeps the inside of the devices protected against handling as well as soiling.

Features

- Front and rear panel mounting
- With pre-assembled single conductors or shielded cable
- Molding provides protection against damp and other pollution

Information about these products:

0620.1   *saris*® Sensor/actuator wiring M8/M12 and valve connectors
          or at https://eshop.wieland-electric.com

gesis®NRG Netz – flat cable system, 5x10 mm^2

5-pole flat cable system 250 V/400 V, 50 A, IP 20.

Features

• Mechanical coding prevents voltage reversal
• Available in PVC and halogen-free

gesis®NRG Netz – power supply module, 5x10 mm^2

5-pole power supply module 250 V/400 V, 50 A, IP 20.

Features

• Power supply module for 5x10 mm² incl. pull relief
• Housing cover protected against loss
• Screw connection

gesis®NRG Netz – outlet module, 5x10 mm^2

5-pole outlet module 250 V/400 V, 25 A, IP 20.

Features

• Outlet module for 10 mm² flat cable with pull relief
• Simple mounting thanks to easy "push-in technology"
• Piercing connection with Torx® screws

Information about these products:

0662.1   *gesis*®NRG Flat cables
          or at https://eshop.wieland-electric.com

wienet UMS 5-W, UMS 8, LMS 16-W

Ethernet Switches (Fast Ethernet)

In addition to a very slim 5-port switch, a PoE switch (Power over Ethernet) and a „light" managed switch (LMS version) is contained in our *wienet*® Switch series.

Features

- UMS 5-W: slim, compact design (30 mm overall width)
- UMS8: 4 of 8 ports with PoE (max. 15.4 W at 48 V) Ethernet ESD and Power Line EFT Protection
- LMS 16-W: Communication via Modbus-TCP (e.g. to SCADA-systems), ommunication with NMS (Network Management System) via SNMP, Port-based QoS for deterministic data transfer, Jumbo Frame support up to 2048 bytes

flare TIME – Multi-function timer front panel mounting

With just one rotary knob, the µC-based multifunction time relay allows very simple setting of the required time functions.

Features

- Remanent storage of the status in case of voltage loss
- Wide-range voltage input for AC and DC
- Large, four-digit 7-segment display for easy readability
- Two independent changeover contacts up to 250 V AC / 5 A
- Easy operation with one adjusting knob

cores C2M – Analog isolation amplifier

Analog isolation amplifiers ensure a defined separation of measurement and process signals. Further on the different standardized signal forms can be converted.

Features

- Universal functions settable
- 3 or 4 way isolation
- Via PC configurable over USB mini port
- High accuracy via digital conversion

Information about these products:

0800.1   *interface* – Solutions for the control cabinet
              or at https://eshop.wieland-electric.com

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