

AUTOMATION

**ELECTRICAL
INTERCONNECTIONS**



• **Get to know...**

• **...the leader in Spring Pressure technology**

WAGO®
INNOVATIVE CONNECTIONS

WAGO...the Global Leader in Spring Pressure Termination Technology



As the innovators of the world renowned CAGE CLAMP® concept, WAGO has been the world market leader for more than a half century in the design and manufacture of termination systems incorporating screw-less, spring pressure, wire termination technology. Today, WAGO offers an unrivalled range of advanced products including PCB mount terminal blocks and connectors, chassis mount terminal blocks, DIN rail mount terminal blocks, relay modules, signal conditioners, controller interface modules, power supplies, surge protection, outlet boxes, push-wire connectors, and the WAGO-I/O-SYSTEM.

CAGE CLAMP®...an Industry Changing Concept

1951 marks the beginning of WAGO's success story. In this year, the first terminal block with spring pressure termination technology was born. This innovation led to the first push-wire connection in 1968, and then in 1977 to the industry changing termination technology known as CAGE CLAMP®.

In contrast to traditional screw-type termination technologies, WAGO's screwless, spring pressure termination technologies can reduce wiring by up to 75%. Even more important is the fact that, because the clamping force automatically adjusts to the wire size, it provides a highly reliable, maintenance-free contact that is virtually independent of operator skill. The end result is a secure, vibration proof, corrosion resistant, temperature cycling resistant, and cost saving connection - every time.

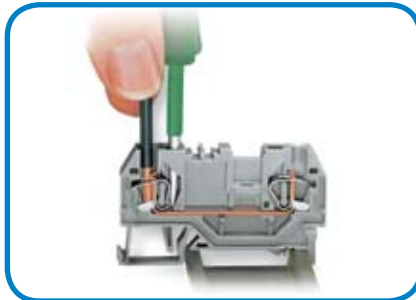


As Easy as 1, 2, 3

1) Insert screwdriver



2) Insert prepared wire



3) Remove the screwdriver



Proven Technology Over Time

The underlying concept of our products, services, and technologies are safety and reliability. Couple over 10 billion CAGE CLAMP®s installed in the field today with a high awareness for quality control, and you get the safety and reliability our customers have come to expect from us. As an ISO 9001:2000 certified company we stand ready to support your applications with the highest quality products at the lowest installed cost. Below you will find just some of the steps WAGO has taken to ensure your decision to use our products is the right one.



Oscillation Generator



Climatic Chamber



Salt Spray Test



Glow Wire Test



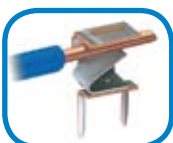
Automated Assembly with
built-in quality control



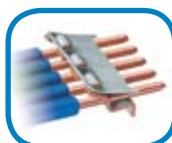
EMC Chamber

The Result of Our Experience

As the inventor of CAGE CLAMP®, WAGO offers more than 25 years experience with this technology. This results in the most extensive line of spring pressure termination technology products, more than 12,000 part numbers, and the right spring pressure technology for the task at hand.



LEAF SPRING



PUSH WIRE



IDC Connection



CAGE CLAMP



CAGE CLAMP
COMPACT



CAGE CLAMP-S



POWER CLAMP

• An Extension of Your Team... WAGO Value Added Services

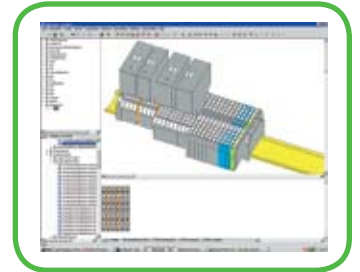


At WAGO, we understand that your time is valuable and limited. That's why we have put together a complete package of value added products and services to save you time and make your job easier – much like the concept behind our screw-less, spring pressure termination technologies. Among the benefits of these solutions are reduced time to market, unique solutions tailored to your application, reduced inventory costs, and increased efficiencies.

• ProServe... Free Service on CD-ROM

Our ProServe software solution not only includes a searchable and interactive product catalog, but also includes efficiency enhancing and time saving solutions.

- An interactive catalog that gives you access to over 12,000 innovative WAGO solutions – at the tip of your fingers.
- Create drawings of and integrate all WAGO products needed for your project with this CAE tool. Also, provides complete project documentation.
- WYSIWYG marking software allows you to easily create custom and professional marking identification tags for your project.
- An electro-CAD system designed for use with your WAGO assemblies so that wiring parameters such as wire color and size can be defined.



• Custom Product Design and Development

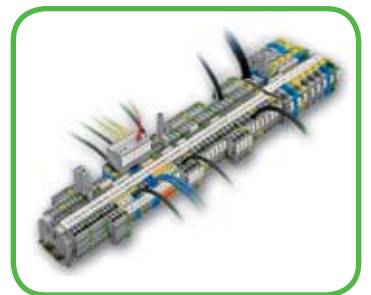


WAGO recognizes not every customer requirement can be met with standard catalog items, even with our more than 12,000 part numbers. As a result, we offer a custom products department staffed with degreed engineers who are ready to work with you on your unique requirement. The process is easy, economical, and starts with an idea; 1) your idea, 2) working with you - we formulate the optimal solution, 3) concept approval leads to prototypes and documentation, and 4) once everything has been approved – testing and verification procedures are put in place and we begin manufacturing your solution with our extensive in-house capabilities.

• Pre-Assembled Rails and Components

Use the expertise at WAGO or one of our channel partners to provide you with completed rail assemblies and components built to your specifications. Benefits include:

- Reduce inventory to a single part number – saves shelf space and ordering time.
- Reduce your delivery dates with pre-fabricated assemblies at your demand.
- Reduce production costs and time – re-focus on other priorities.



• Completing the Service Circle

As a company whose success derives from challenging conventional wisdom, WAGO remains fully committed to developing close working partnerships with our customers. As such, we invite you to tell us how we can be of service and add value to your processes and products. Below are just some of the ways WAGO completes the service circle.



Customer Service



Project Support



Documentation

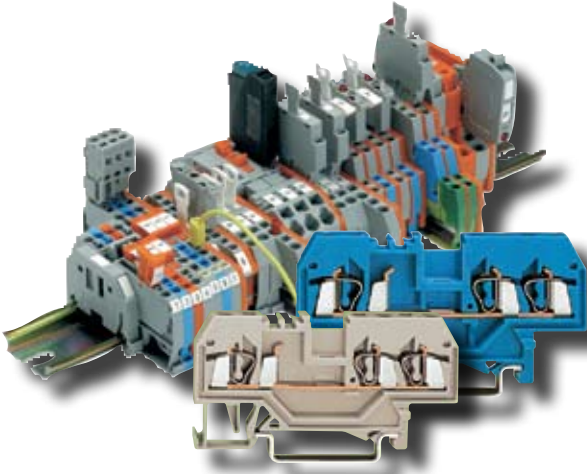


Inventory Management



Training Seminars

Rail Mount Terminal Blocks



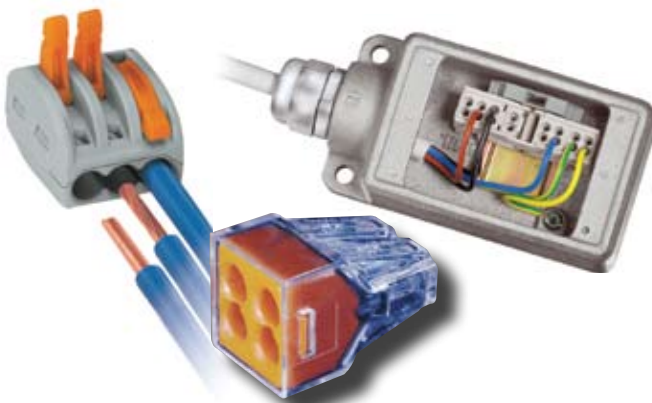
- Accepts broad wire range of 28 AWG - 4/0 – for both solid and stranded conductors.
- For applications up to 600V and 200A.
- Feed through functions include 2, 3, 4, and 6 conductor blocks, single, double and triple level configurations, and ground terminal blocks.
- Application specific functions include; fuse holders, disconnects, built-in diodes or surge suppression, pluggable connectors, sensor/ actuator terminal blocks, and hazardous location rated terminals.
- Broad range of accessories includes; marking systems, jumpers (standard, staggered, step-down), shield connection, end stops, assembly covers, and test plugs.
- Connection Technology – CAGE CLAMP®, CAGE CLAMP Compact, FIT CLAMP, POWER CLAMP, CAGE CLAMP®S.

Chassis Mount Terminal Blocks

- Accepts broad wire range of 28 – 12 AWG – for both solid and stranded conductors.
- For applications up to 600V and 20A.
- Available in 2 and 4 conductor versions.
- Both Modular and fixed configurations.
- Unique features such as push-button connections and integrated ground contact.
- Modular solutions allow for color coding via multi-colored terminal slices.
- Flexible mounting options – screw flange, built-in mounting rivets, transformer bobbins, and rail mounting.
- Broad range of accessories includes: multiple marking systems, jumpers, and test plugs.
- Connection Technology – CAGE CLAMP®, CAGE CLAMP compact, CAGE CLAMP®S, and LEAF SPRING.



Splicing Connectors (773 & 222 Series)



773 Series

- Push-in leaf spring connection technology.
- Accepts 10-18 AWG – stranded and solid wire (restrictions apply – consult factory).
- 2, 3, 4, 6, and 8 conductor versions.
- Clear housing for connection inspection.
- Built-in test point for easy circuit testing.

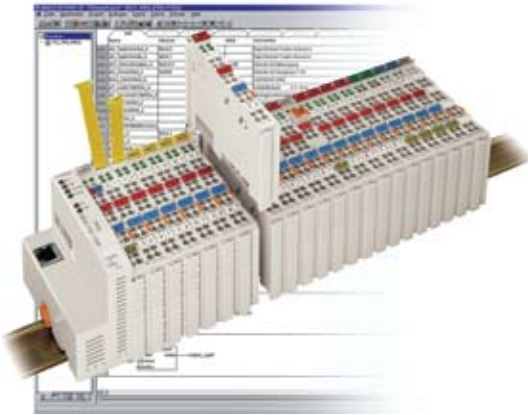
222 Series

- Lever actuated CAGE CLAMP® connection.
- Accepts 28-12 AWG – stranded and solid wire.
- For applications up to 600V and 20A.
- 3 and 5 conductor versions available.
- Built-in test point for easy circuit testing.

Worldwide Approvals:



The WAGO I/O SYSTEM



- Programmable Fieldbus Controllers and Industrial PC's for stand-alone and distributed control or data collection.
- Variety of Fieldbus Couplers (network adapters) – Classic, ECO-nomy, and Compact.
- Support for more than 16 different fieldbus protocols including; Ethernet, DeviceNet, Profibus, Modbus, etc.
- Over 200 digital, analog, and special function (serial, counter, pulse width, haz-loc, and safety) I/O modules.
- Granular, rack-less, and compact I/O module design.
- Solutions for both IP-20 and IP-67 (water tight).
- Software tools – WAGO-I/O-PRO (IEC 61131 programming tool), WAGO-I/O-CHECK (diagnostic and documentation), WAGO-DLL, and WAGO-OPC.
- Connection Technology - CAGE CLAMP®, and CAGE CLAMP Super Compact.

Switching Power Supplies

- Meets global requirements with universal input on both single phase and three phase versions.
- Broad output range – up to 960W (@ 24V).
- Industrial grade, metal, DIN rail mount housing offers ventilated, compact design.
- Built-in protection against short circuit, thermal overload and/or surge.
- High operating temperature without derating – up to 120 degrees Fahrenheit.
- Meets stringent standard for safety and interference.
- Pluggable connectors reduce installation time.
- Connection Technology – CAGE CLAMP®.



Convenient Power Outlets



- Provides a convenient power source in the control cabinet for laptops, lighting, test equipment, etc.
- Available in standard duplex, 20A duplex, GFCI, Isolated ground, switched controlled duplex, switched box, international duplex, and custom solutions.
- No assembly required – just mount on DIN rail and connect power to built-in connectors (826 or 721 Series).
- Integrated safety features such as orienting the ground pin on the top to prevent inadvertent shorting.
- Available with both pluggable and fixed connections.
- Connection Technology - CAGE CLAMP®, CAGE CLAMP®S.

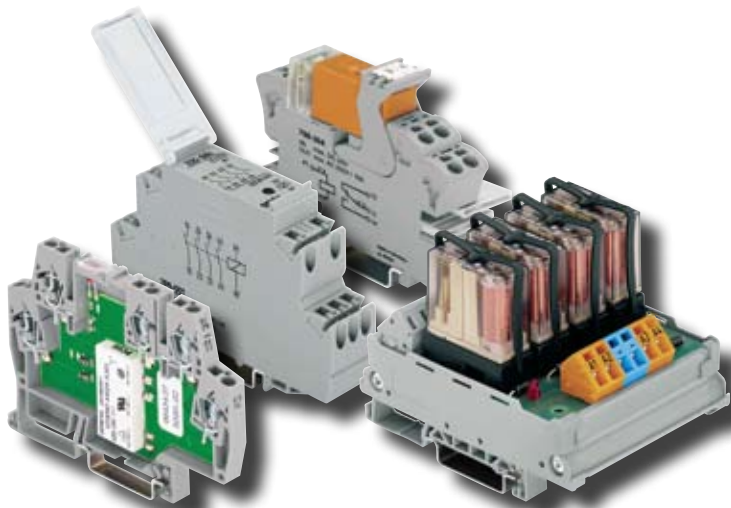
CNET



LCIE ABS



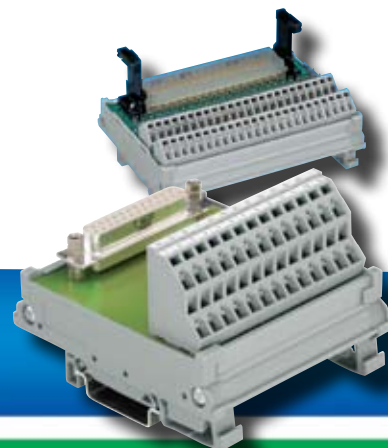
Relay Terminal Blocks and Modules



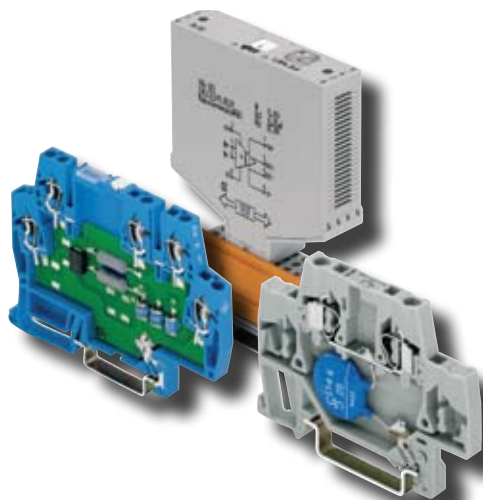
- Broad range of relay technology including: Mechanical, Optocoupler, Safety, Latching, Bi-stable, Timer, as well as custom relay solutions.
- Many standard configurations from single pole/ single throw to four pole/ double throw.
- For applications requiring 5V to 230V and up to 16A.
- Both pluggable and fixed relays available.
- Clear separation of coil and load connections.
- Integrated functions such as status indicators and polarity reversal protection.
- High degree of isolation between input and output.
- Broad range of accessories includes; marking system, jumpers, and test plugs.
- Connection Technology - CAGE CLAMP®, CAGE CLAMP compact, and CAGE CLAMP®S.

Interface Modules

- Unlimited range of connector solutions including; D-sub, ribbon cable connectors, DIN, and centronics.
- Prefabricated cables for popular PLC, Drive, and Motion Control brands.
- Integrated functions such as fuse holders, LED's, diode networks, relays, disconnects, etc.
- Available with and without mounting carrier – all interface modules come standard with DIN rail mount feet.
- Options for pluggable or fixed field connections.
- Marking options for both wiring and module identification.
- Custom solutions built to your specifications.
- Connection Technology – CAGE CLAMP®, CAGE CLAMP®S, and LEAF SPRING.



Signal Conditioning & Surge Protection



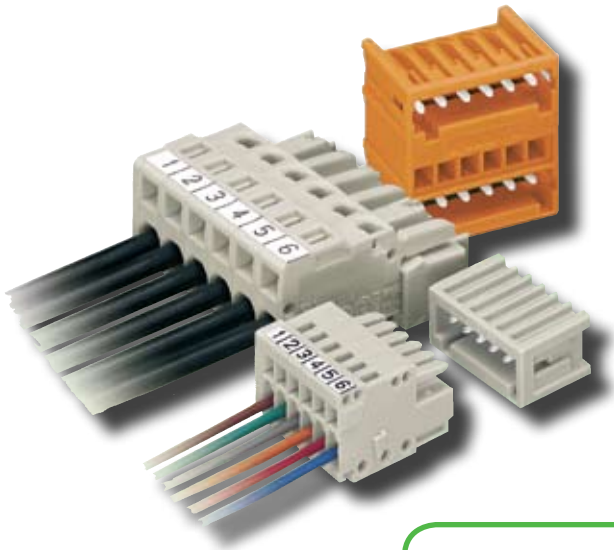
Signal Conditioning:

- 0-10V, 0-20mA, and 4-20mA analog conditioning.
- DC to DC, A/D, and D/A converters.
- High degree of isolation between input and output.
- Pluggable modules for quick installation and change out.
- Connection Technology - CAGE CLAMP®.

Surge Protection:

- Protection against transient and overvoltage conditions in both DC and AC circuits.
- Surge technologies include Metal Oxide Varistors, suppression diodes, and/or gas tube arrestors.
- Available with warning indication of strike absorbed.
- Versions with up to three stages of protection.
- Connection Technology - CAGE CLAMP® and CAGE CLAMP compact.

Multi Connection System



- Approved for 28-8 AWG, up to 600V and 40A.
- Variety of mounting options including PCB, through panel, DIN-rail, chassis, and flying lead.
- PIN spacing from 0.098 to 0.3 inches.
- Vertical and horizontal orientation of the plug or header.
- Combinations for coding or keying plugs and headers.
- Multi-level headers, as well as two conductor plugs.
- Locking levers or screw-flanges for secure mating.
- Marking system includes direct marking or marker strip.
- Optional accessories include strain relief, jumper, test plugs, operating levers, and lockout caps.
- Connection Technology – CAGE CLAMP® and CAGE CLAMP®S.

Printed Circuit Board Connectors

- Accepts a broad range of wire sizes 28-6 AWG.
- For applications up to 600V and 65A.
- Available as standard feed through, multi-level (2-4), various wire entry angles, many colors, fuse holder, and disconnect.
- Actuation via standard screwdriver, push-in, or lever.
- Modular assembly for greater design flexibility.
- PCB connection technology - Through Hole Technology, Through Hole Reflow, Surface Mount Technology, and Press-In Technique.
- Connection Technology – CAGE CLAMP®, LEAF SPRING, CAGE CLAMP®S, and IDC.



WINSTA - Modular Wiring System



- Approved for 20-12 AWG, up to 600V and 20A.
- Available in 3, 4, and 5 pole connectors with 2 connections per pole, as well as power distribution, phase selector, and distribution box configurations.
- Flexible mounting options include flying lead, PCB mount, through panel, and chassis mount.
- Options for coding/keying, integrated ground connection, strain relief, and locking devices.
- Available as pre-fabricated harness or loose connectors.
- Connection Technology – CAGE CLAMP®S.

CNET



LCIE

ABS



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