



interface
Solutions for the
Control Cabinet

Catalog 2012





▲ Sales and Marketing Center in Bamberg



▲ the Bamberg headquarters



▲ STOCKO headquarters in Wuppertal

wieland group

ACTIVE WORLDWIDE

With its staff of almost 2,200 employees, the Wieland Group is at home on all continents.

Subsidiaries in Great Britain, France, Spain, Italy, Poland, Canada, the USA, China and Denmark 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.



automation

building

electronics

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[®], samos[®]PRO and the new **sensor^{PRO}** safety sensors.

podis[®], 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[®]** 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[®]** components from Wieland. Wieland is the pioneer on a path toward the intelligent home by consistently developing its

gesis[®] product range, especially with regards to the demands of electronic networking.

Wieland Electric was founded in 1910 in Bamberg. With 800 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.

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 cutting-edge 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.

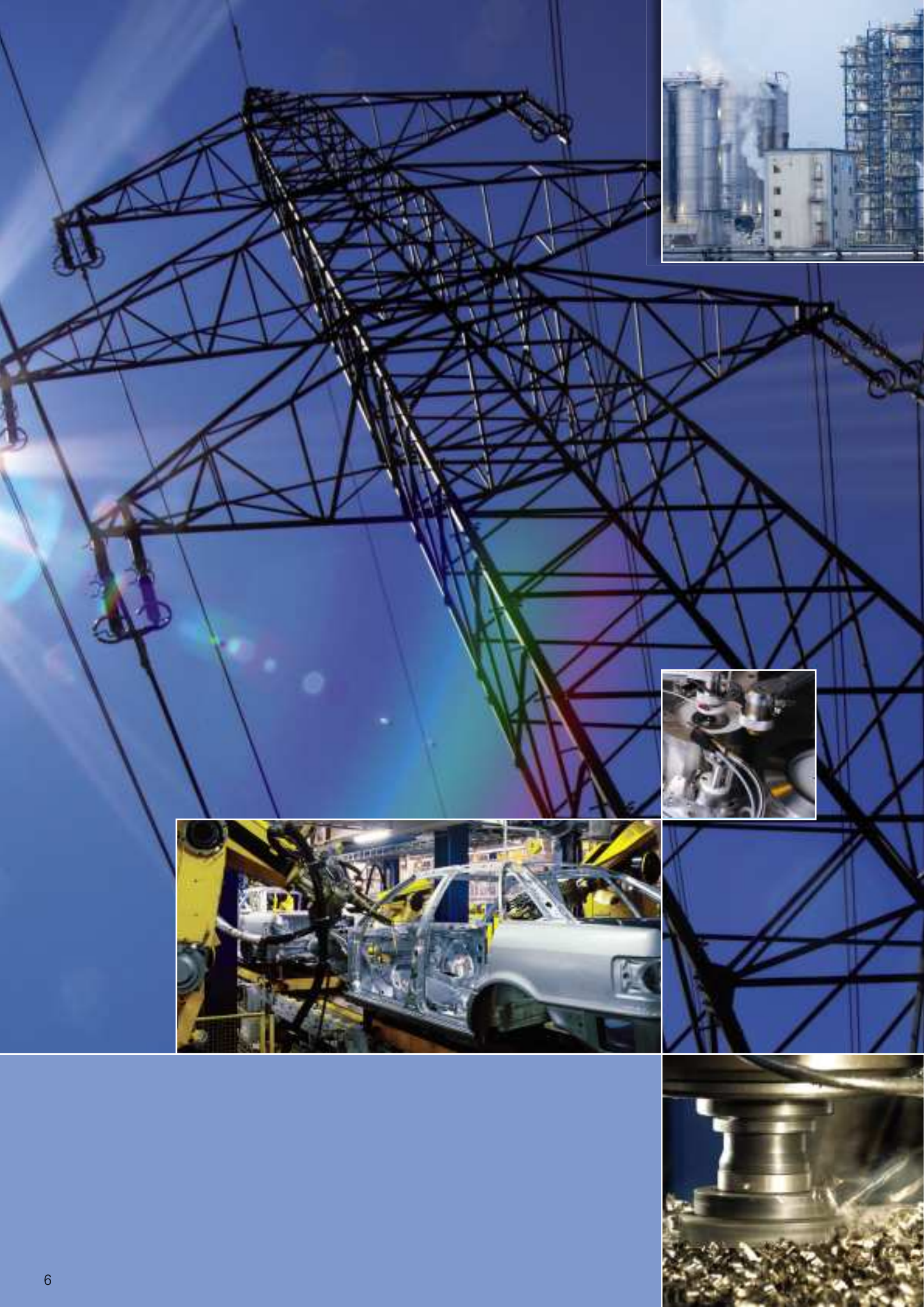


Contents

| | | |
|---|------------|---|
| The Wieland Group | 2 |  |
| interface | 6 |  |
| Signal processing throughout your control system with our connectivity solutions | | |
| Protect | 11 |  |
| wietap overvoltage protection | | |
| Supply | 32 |  |
| wipos power supplies Pure Power – no frills | | |
| Coupling | 40 |  |
| wienet / flare / cores always the right connection | | |
| Control | 58 |  |
| flare ^{TIME} Electronic and electro-mechanical timer and switching relays Control with the right setting | | |
| Measure and monitor | 82 |  |
| flare ^{CONTROL} Measuring and monitoring relays The right device for every monitoring task | | |
| Additional product lines | 90 |  |
| Safety, DIN rail terminal blocks, industrial multipole connectors, cable assemblies, distributed automation | | |
| Support and consultation | 105 | |
| Subsidiaries and sales representatives | 107 |  |

contacts
are
green.





interface

Signal processing

throughout your control system,
with our connectivity solutions



Versatility for every application

Wherever current flows and signals are processed, the unique strengths of Wieland Electric **interface** products shine through. Thanks to a broad range of relays, power supplies and overvoltage protection devices, as well as **interface** and analog modules, your application will also become a real all-rounder. Send all the right signals with our interface technology and innovative DIN rail terminal blocks.



Applications:

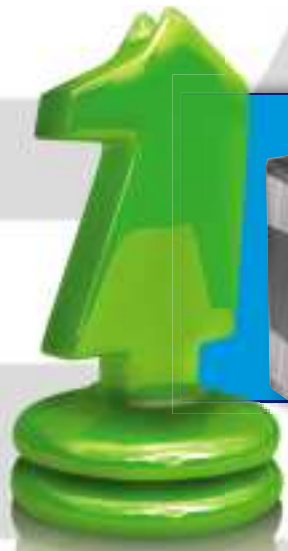
- Machine building
- Process control
- Transportation & material handling
- Automotive industry
- Power distribution
- Petrochemical
- Food industry
- Manufacturing engineering





Signal processing

throughout your control system with



| supply |

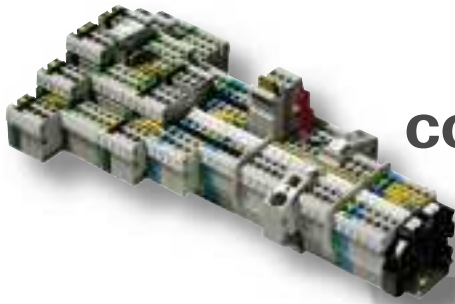
wipos power supplies including single-phase and three-phase devices for DIN rail mounting in almost any application



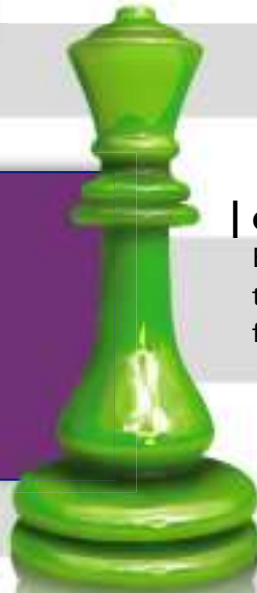
| protection |

wietap overvoltage protection devices for guaranteed highest system availability and device protection

our



connectivity solutions



| control |

Electronic and electromechanical timer and multi-function relays **flare**^{TIME} for simple to highly complex control tasks



| coupling |

flare relays for floating coupling of control functions. Ethernet switch series and VPN industrial router **wienet**, for communication.



| measuring and monitoring |

Electronic measuring and monitoring relays **flare**^{CONTROL} for all monitoring and communicating tasks in machines and systems





wietap

Overvoltage protection

Important information on overvoltage

The necessity of overvoltage protection on machines and systems as well as for building technology is ever increasing. The potential danger of damage and even complete destruction posed to valuable electronic components or even complete production systems, computer systems or communication systems by sudden overvoltage from the grid, or direct lightning strikes has mobilized not just insurance companies. Well-advised users also know the importance of protecting their electrical devices, plants and systems both sufficiently and reliably against this danger, and the overall advantage of increasing their system availability.



Overvoltage protection modules

Overvoltage protection modules come in three type categories which designate their capacity to absorb overvoltage energy. Type 1 arresters can divert the largest amount of energy to ground (PE). The ideal installation location for these devices is at the building's main supply. In this configuration the impulse energy is considerably weakened, if it moves downstream into the installation. In sub-panels and control cabinets, this surplus energy is reduced further by type 2 and 3 arresters, thus maintaining the survival of the protected devices.





Table 1

LEMP protection for buildings with electrical and electronic systems according to IEC 62305-4 (DIN EN 62305-4, DIN 0185-305-4)

Lightning protection zones

- LPZ 0_A At risk from direct lightning strikes, impulse currents up to the full lightning current and through the full lightning field.
- LPZ 0_B Protected against direct lightning strike. At risk from impulse currents up to partial lightning currents and through the full lightning field.
- LPZ 1 Impulse currents further limited by current division and SPDs at the zone limits. In most cases, the lightning field is attenuated by shields.
- LPZ 2 Impulse currents further limited by current division and SPDs at the zone limits. In most cases, the lightning field is attenuated by local shields.



Playing it safe with **overvoltage protection**

Very short response time and high discharge capacity

With its considerably expanded **wietap** product range, Wieland Electric offers comprehensive solutions for overvoltage protection in control cabinets and sub panels of machines and buildings, as well as for photovoltaic systems. The components, which are modular and DIN rail mountable, range from the ready-to-connect 3-phase combi-arrester **wietap V M** for the main distribution, to the overvoltage protection module **wietap G M** for sub panels, up to the overvoltage module **wietap R M** intended for the control cabinet or constructed into the equipment. All components are designed for

application temperatures from -40 to 80 °C and have a high discharge capacity. Devices are also available with a remote signaling contact.

Properties of **wietap**:

- Electrically coordinated product family
- Highest discharge capacity up to 100 kA
- No tripping of fuses thanks to follow current limitation
- Latching pluggable protection modules
- Vibration and shock tested acc. to EN 60068-2
- Visual function & defect display for every path
- Modules replaceable without tools
- Can also be used in front of vertical power meter



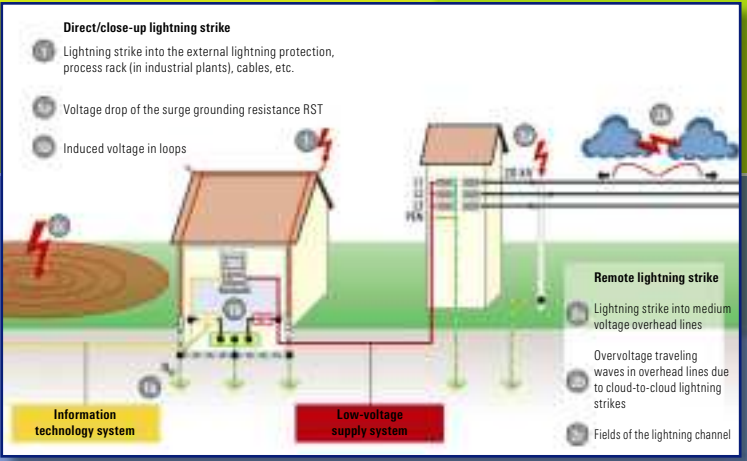
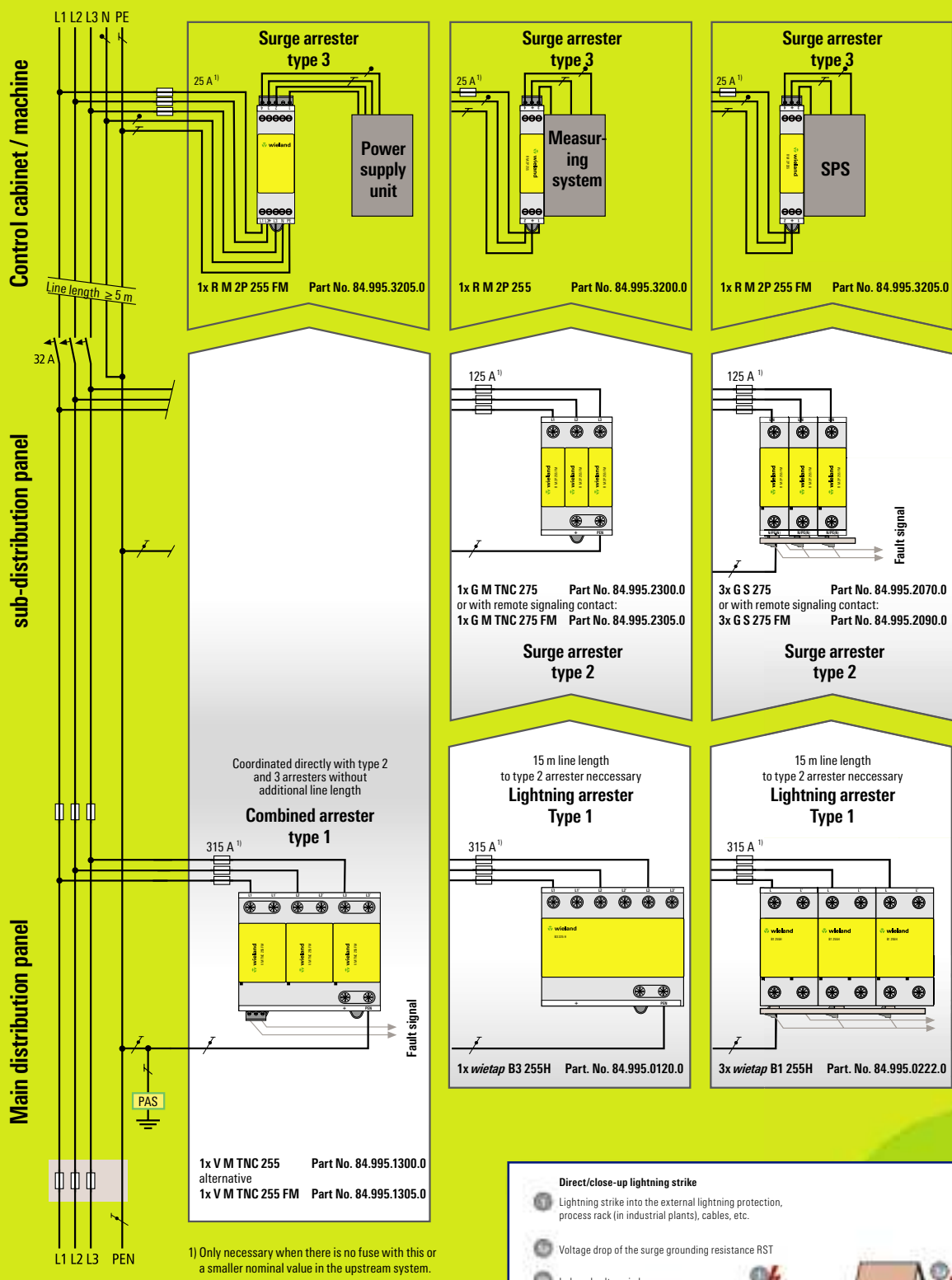


Figure 1

Overvoltage protection

The zone concept for lightning protection

The **zone concept for lightning protection** enables planners, builders and owners to plan, implement and monitor protective measures. All relevant devices, plants and systems can thus be protected reliably at economically justifiable costs..

Direct or close-up lightning strikes are lightning strikes into the lightning protection system of a building, in close proximity to it, or into the electrically conductive systems implemented in the building (e.g. low-voltage supply, telecommunications, control lines. **(Fig. 1)**

Remote lightning strikes are lightning strikes that occur far away from the object to be protected as well as lightning strikes into the medium voltage overhead system or in close proximity to it, or lightning discharge from cloud to cloud **(Fig. 1: cases 2a, 2b and 2c)**.

In addition to a lightning protection system in the building, additional measures for an overvoltage protection of electrical and electronic systems are required in order to **safeguard the continuous availability** of complex power engineering and IT systems even in the case of a direct lightning strike. It is important to consider all the causes for overvoltages.

The zone concept for **lightning protection** as described in IEC 62305-4 (DIN EN 62305-4, DIN 0185-305-4) applies accordingly **(Fig. 3)**. It divides a building into different risk zones. The relevant protective measures can then be derived for each zone, especially the devices and components for lightning and overvoltage protection.

The zones for lightning protection are defined as described in Table 1.

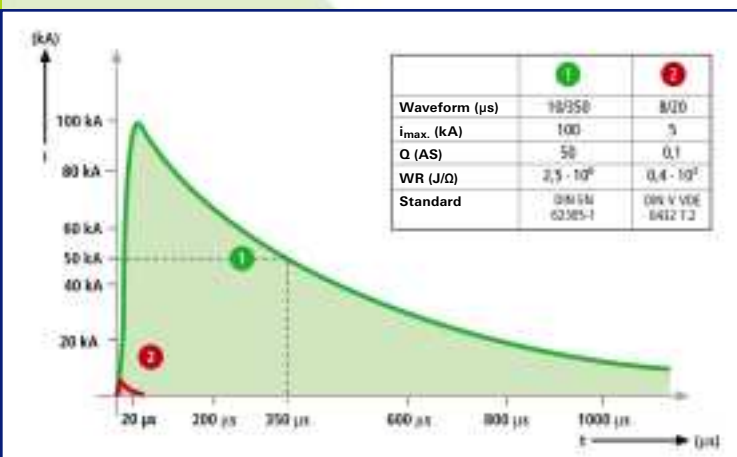


Figure 2: ① Peak current for testing of lightning arresters
 ② Peak current for testing of surge arresters

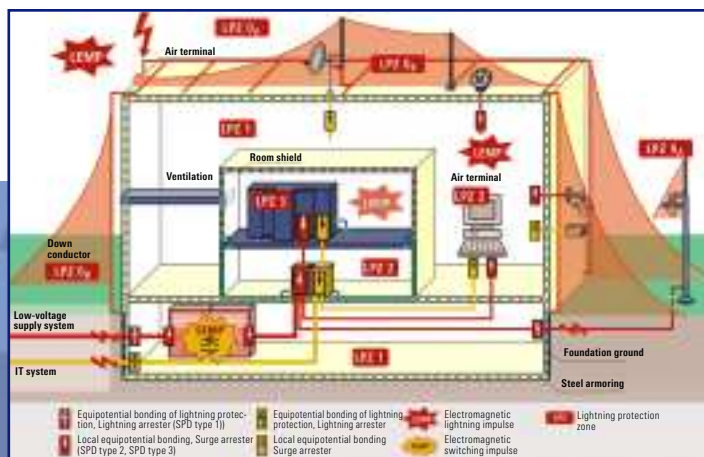


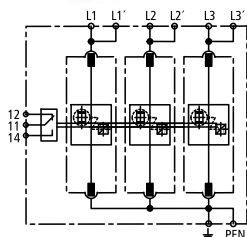
Figure 3: EMC-oriented zone concept for lightning protection

Three-phase combined arrester, type 1 (2, 3)

For protection of the building main supply

wietap V M TNC 255 (FM)

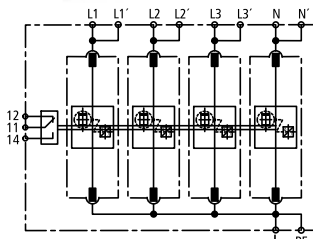
- Combined arrester, type 1
- For TN-C-systems
- With pluggable protection modules
- Max. system availability due to follow current limitation
- Switch-off selective for 20 A gL/gG fuses up to 50 kA_{eff} short-circuit current
- Discharge capacity up to 75 kA (10/350)
- Function/failure indication according to VDE 0100-534
- Optional with remote signaling contact (FM)
- Vibration and shock tested acc. to EN 60068-2



| Type | Part No. |
|---|--|
| wietap V M TNC 255 | 84.995.1300.0 |
| wietap V M TNC 255 FM | 84.995.1305.0 |
| Replacement module L1, L2, L3 against \pm | 84.995.1001.0 |
| Power network | TN-C |
| SPD accord. to EN 61643-11 / IEC 61643-1 | Type 1 / Class I |
| Energy-coordinated protective function to the end device | Type 1 + Type 2 |
| Energy-coordinated protective function to the end device $\leq 5m$ | Type 1 + Type 2 + Type 3 |
| Nominal voltage AC [U _N] | 230 / 400 V |
| Nominal frequency [f _N] | 50 / 60 Hz |
| Maximum continuous voltage AC [U _c] | 255 V |
| Lightn. impulse current (10/350) [L1+L2+L3-PEN] [I _{total}] | 75 kA |
| Lightn. impulse current (10/350) [L-PEN] [I _{imp}] | 25 kA |
| Nominal discharge current (8/20) [I _n] | 25 / 75 kA |
| Protection level [U _p] | ≤ 1.5 kV |
| Follow current extinguishing capability AC [I _{eff}] | 50 kA _{eff} |
| Operating time [t _a] | ≤ 100 ns |
| Max. pre-fusing (L) up to I _k = 50 kA _{eff} | 315 A gL/gG |
| Max. pre-fusing (L) up to I _k > 50 kA _{eff} | 200 A gL/gG |
| Max. pre-fusing (L-L') | 125 A gL/gG |
| TOV-voltage [U _T] | 440 V / 5 sec. |
| Temperature range (Parallel wiring) [T _{up}] | -40 ... +80 °C |
| Temperature range (Through wiring) [T _{us}] | -40 ... +60 °C |
| Function/failure indication | green / red |
| Wire range (L1, L1', L2, L2', L3, L3', PEN, \pm) [min.] | 10 mm ² solid/fine-stranded |
| Wire range (L1, L2, L3, PEN) [max.] | 50 mm ² stranded/35 mm ² fine-stranded |
| Wire range (L1', L2', L3', \pm) [max.] | 35 mm ² stranded/25 mm ² fine-stranded |
| Mounted on DIN rail acc. to EN 60715 | 35 mm |
| Housing material | Thermoplast, UL 94 V-0 |
| Degree of protection | IP 20 |
| Dimensions | 6 TE, DIN 43880 (108 mm) |
| Remote signaling contacts = Contact Type | Change-over contact |
| Switching capacity AC (FM) | 250 V/0.5 A |
| Switching capacity DC (FM) | 250 V/0.1 A; 125 V/0.2 A; 75 V/0.5 A |
| Wire range for remote signaling terminals | max. 1.5 mm ² solid/fine-stranded |
| Approvals | CE |

wietap V M TNS 255 (FM)

- Combined arrester Type 1
- For TN-S-systems
- With pluggable protection modules
- Max. system availability due to follow current limitation
- Switch-off selective for 20 A gL/gG fuses up to 50 kA_{eff} short-circuit current
- Discharge capacity up to 100 kA (10/350)
- Function/failure indication according to VDE 0100-534 (valid since March 2009)
- Optional with remote signaling contact (FM)
- Vibration and shock tested acc. to EN 60068-2



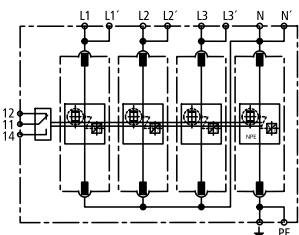
| Type | Part No. |
|---|--|
| wietap V M TNS 255 | 84.995.1400.0 |
| wietap V M TNS 255 FM | 84.995.1405.0 |
| Replacement module L1, L2, L3, N against \pm | 84.995.1001.0 |
| Power network | TN-S |
| SPD accord. to EN 61643-11 / IEC 61643-1 | Type 1 / Class I |
| Energy-coordinated protective function to the end device | Type 1 + Type 2 |
| Energy-coordinated protective function to the end device $\leq 5m$ | Type 1 + Type 2 + Type 3 |
| Nominal voltage AC [U _N] | 230 / 400 V |
| Nominal frequency [f _N] | 50 / 60 Hz |
| Maximum continuous voltage AC [U _c] | 255 V |
| Lightn. impulse current (10/350) [L1+L2+L3-PEN] [I _{total}] | 100 kA |
| Lightn. impulse current (10/350) [L, N-PE] [I _{imp}] | 25 kA |
| Nominal discharge current (8/20) [I _n] | 25 / 100 kA |
| Protection level [L, N-PE] [U _p] | ≤ 1.5 kV |
| Follow current extinguishing capability AC [I _{eff}] | 50 kA _{eff} |
| Operating time [t _a] | ≤ 100 ns |
| Max. pre-fusing (L) up to I _k = 50 kA _{eff} | 315 A gL/gG |
| Max. pre-fusing (L) up to I _k > 50 kA _{eff} | 200 A gL/gG |
| Max. pre-fusing (L-L') | 125 A gL/gG |
| TOV-voltage [L-N] [U _T] | 440 V / 5 sec. |
| Temperature range (Parallel wiring) [T _{up}] | -40 ... +80 °C |
| Temperature range (Through wiring) [T _{us}] | -40 ... +60 °C |
| Function/failure indication | green / red |
| Wire range (L1, L1', L2, L2', L3, L3', N, N', PE, \pm) [min.] | 10 mm ² solid/fine-stranded |
| Wire range (L1, L2, L3, PE, N) [max.] | 50 mm ² stranded/35 mm ² fine-stranded |
| Wire range (L1', L2', L3', N', \pm) [max.] | 35 mm ² stranded/25 mm ² fine-stranded |
| Mounted on DIN rail acc. to EN 60715 | 35 mm |
| Housing material | Thermoplast, UL 94 V-0 |
| Degree of protection | IP 20 |
| Dimensions | 8 TE, DIN 43880 (144 mm) |
| Remote signaling contacts = Contact Type | Change-over contact |
| Switching capacity AC (FM) | 250 V/0.5 A |
| Switching capacity DC (FM) | 250 V/0.1 A; 125 V/0.2 A; 75 V/0.5 A |
| Wire range for remote signaling terminals | max. 1.5 mm ² solid/fine-stranded |
| Approvals | CE |

Three-phase combined arrester, type 1 (2, 3)

For protection of the building main supply

wietap V M TT 255 (FM)

- Combined arrester Type 1
- For TT- and TN-S-systems ("3+1" circuits)
- With pluggable protection modules
- Max. system availability due to follow current limitation
- Switch-off selective for 20 A gL/gG fuses up to 50 kA_{eff} short-circuit current
- Discharge capacity up to 100 kA (10/350)
- Function/failure indication according to VDE 0100-534
- Optional with remote signaling contact (FM)
- Vibration and shock tested acc. to EN 60068-2



| Type | Part No. |
|---|--|
| wietap V M TT 255 | 84.995.1310.0 |
| wietap V M TT 255 FM | 84.995.1315.0 |
| Replacement module L1, L2, L3 against N | 84.995.1001.0 |
| Replacement module N against PE | 84.995.1100.0 |
| Power network | TT and TN-S |
| SPD according to EN 61643-11 / IEC 61643-1 | Type 1 / Class I |
| Energy-coordinated protective function to the end device | Type 1 + Typ 2 |
| Energy-coordinated protective function to the end device $\leq 5m$ | Type 1 + Type 2 + Type 3 |
| Nominal voltage AC [U _N] | 230 / 400 V |
| Nominal frequency [f _N] | 50 / 60 Hz |
| Maximum continuous voltage AC [U _c] | 255 V |
| Lightn. impulse current (10/350) [L1+L2+L3 +N-PE] [I _{total}] | 100 kA |
| Lightn. impulse current (10/350) [L-N] [I _{imp}] | 25 kA |
| Lightn. impulse current (10/350) [N-PE] [I _{imp}] | 100 kA |
| Nominal discharge current (8/20) [I _n] | 25 / 100 kA |
| Protection level [L-N, N-PE] [U _r] | ≤ 1.5 kV |
| Follow current extinguishing capability [L-N] AC [I _{fc}] | 50 kA _{eff} |
| Follow current extinguishing capability [N-PE] AC [I _{fc}] | 100 A _{eff} |
| Operating time [t _a] | ≤ 100 ns |
| Max. pre-fusing (L) up to I _k = 50 kA _{eff} | 315 A gL/gG |
| Max. pre-fusing (L) up to I _k > 50 kA _{eff} | 200 A gL/gG |
| Max. pre-fusing (L-L') | 125 A gL/gG |
| TOV-voltage [L-N] [U _v] | 440 V / 5 sec. |
| TOV-voltage [N-PE] [U _v] | 1200 V / 200 ms |
| Temperature range (Parallel wiring) [T _{UP}] | -40 ... +80 °C |
| Temperature range (Through wiring) [T _{US}] | -40 ... +60 °C |
| Function/failure indication | green / red |
| Wire range (L1, L1', L2, L2', L3, L3', N, N', PE, PE) [min.] | 10 mm ² solid/fine-stranded |
| Wire range (L1, L2, L3, N, PE) [max.] | 50 mm ² stranded/35 mm ² fine-stranded |
| Wire range (L1', L2', L3', N, PE) [max.] | 35 mm ² stranded/25 mm ² fine-stranded |
| Mounted on DIN rail acc. to EN 60715 | 35 mm |
| Housing material | Thermoplast, UL 94 V-0 |
| Degree of protection | IP 20 |
| Dimensions | 8 TE, DIN 43880 (144 mm) |
| Remote signaling contacts = Contact Type | Change-over contact |
| Switching capacity AC (FM) | 250 V/0.5 A |
| Switching capacity DC (FM) | 250 V/0.1 A; 125 V/0.2 A; 75 V/0.5 A |
| Wire range for remote signaling terminals | max. 1.5 mm ² solid/fine-stranded |
| Approvals | CE |

Replacement module for wietap VM devices

wietap V MOD 255

Network spark gap protection module for all L – PE; L – N and for wietap V M TNS 255 (FM) N – PE



wietap V MOD NPE 100

Network spark gap protection module for wietap V M TT 255 (FM) N – PE



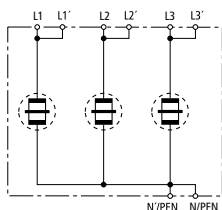
| Type | Part No. |
|-----------------------------|---------------|
| wietap V MOD 255 | 84.995.1001.0 |
| wietap V MOD NPE 100 | 84.995.1100.0 |

3-phase lightning arrester, type 1

For protection of the building main supply

wietap B3 255H

- Lightning arrester, type 1
- For all systems (in connection with **wietap** GPM 255 if required)
- High limitation of follow current
- 50 kA discharge capacity per pole
- High insulation resistance; can therefore also be placed in front of the meter
- Double terminals for V connection



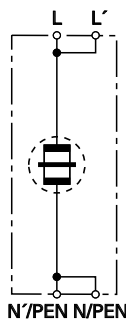
| Type | Part No. |
|---|---|
| wietap B3 255H | 84.995.0120.0 |
| Technical Data | |
| SPD accord. to EN 61643-11 | Type 1 |
| SPD accord. to IEC 61643-1 | Class I |
| Nominal voltage AC [U _N] | 230/400 V |
| Maximum continuous voltage AC [U _C] | 255 V |
| Lightn. impulse current (10/350) [L-N/PEN] [I _{imp}] | 50 kA |
| Lightn. impulse current (10/350) [L1+L2+L3-N/PEN] [I _{total}] | 100 kA |
| Nominal discharge current (8/20) [I _n] | 50 / 100 kA |
| Protection level [U _P] | ≤ 4 kV |
| Follow current extinguishing capability AC [I _n] | 50 kA _{eff} |
| Limitation of follow current / selectivity | Non-tripping of a 35 A gL/gG fuse up to 50 kA _{eff} (prosp.) |
| Operating time [t _a] | ≤ 100 ns |
| Max. pre-fusing bis IK = 50 kA _{eff} (t _a ≤ 0,2 s) | 500 A gL/gG |
| Max. pre-fusing bis IK = 50 kA _{eff} (t _a ≤ 5 s) | 315 A gL/gG |
| Max. pre-fusing bei IK > 50 kA _{eff} | 200 A gL/gG |
| Max. pre-fusing (L-L') | 125 A gL/gG |
| TOV-voltage [U _T] | 335 V / 5 sec. |
| Temperature range (Parallel wiring) [T _{UP}] | -40 ... +80 °C |
| Temperature range (Through wiring) [T _{US}] | -40 ... +60 °C |
| Wire range (L1, L1', L2, L2', L3, L3', N/PEN, N'/PEN) | 10 mm ² solid/fine-stranded |
| Wire range (L1, L2, L3, N/PEN) | 50 mm ² stranded/35 mm ² fine-stranded |
| Wire range (L1', L2', L3', N'/PEN) | 35 mm ² stranded/25 mm ² fine-stranded |
| Mounted on DIN rail acc. to EN 60715 | 35 mm |
| Housing material | Thermoplast, UL 94 V-0 |
| Degree of protection | IP 20 |
| Dimensions | 6 TE, DIN 43880 (108 mm) |
| Approvals | CE |

1-phase lightning arrester, type 1

For the protection of the building main supply

wietap B1 255H

- Lightning arrester, type 1
- For all systems (in connection with **wietap** GPM 255 if required)
- High limitation of follow current
- 50 kA discharge capacity per pole
- High insulation resistance; can therefore also be placed in front of the meter
- Double terminals for V connection



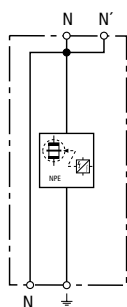
| Type | Part No. |
|--|---|
| wietap B1 255H | 84.995.0222.0 |
| Technical Data | |
| SPD accord. to EN 61643-11 | Type 1 |
| SPD accord. to IEC 61643-1 | Class I |
| Nominal voltage ac [U _N] | 230 V |
| Maximum continuous voltage AC [U _C] | 255 V |
| Lightn. impulse current (10/350) [I _{imp}] | 50 kA |
| Nominal discharge current (8/20) [I _n] | 50 kA |
| Protection level [U _P] | ≤ 4 kV |
| Follow current extinguishing capability AC [I _n] | 50 kA _{eff} |
| Limitation of follow current / selectivity | Non-tripping of a 35 A gL/gG fuse up to 50 kA _{eff} (prosp.) |
| Operating time [t _a] | ≤ 100 ns |
| Max. pre-fusing bis IK = 50 kA _{eff} (t _a ≤ 0,2 s) | 500 A gL/gG |
| Max. pre-fusing bis IK = 50 kA _{eff} (t _a ≤ 5 s) | 315 A gL/gG |
| Max. pre-fusing bei IK > 50 kA _{eff} | 200 A gL/gG |
| Max. pre-fusing (L-L') | 125 A gL/gG |
| TOV-voltage [U _T] | 335 V / 5 sec. |
| Temperature range (Parallel wiring) [T _{UP}] | -40 ... +80 °C |
| Temperature range (Through wiring) [T _{US}] | -40 ... +60 °C |
| Wire range (L, L', N/PEN, N'/PEN) [min.] | 10 mm ² solid/fine-stranded |
| Wire range (L, N/PEN) [max.] | 50 mm ² stranded/35 mm ² fine-stranded |
| Wire range (L', N'/PEN) [max.] | 35 mm ² stranded/25 mm ² fine-stranded |
| Mounted on DIN rail acc. to EN 60715 | 35 mm |
| Housing material | Thermoplast, UL 94 V-0 |
| Degree of protection | IP 20 |
| Dimensions | 2 TE, DIN 43880 (36 mm) |
| Approvals | CE |

N-PE lightning arrester, type 1

For protection of the building main supply

wietap GMP 255

- N-PE lightning arrester, type 1
- In combination with **wietap** B1 255H or **wietap** B3 255H
- 100 kA discharge capacity



| Type | Part No. |
|--|--|
| wietap GPM 255 | 84.995.0055.0 |
| Technical Data | |
| SPD accord. to EN 61643-11 | Type 1 |
| SPD accord. to IEC 61643-1 | Class I |
| Maximum continuous voltage AC [U _c] | 255 V |
| Lightn. impulse current (10/350) [I _{imp}] | 100 kA |
| Nominal discharge current (8/20) [I _n] | 100 kA |
| Protection level [U _p] | ≤ 1.5 kV |
| Follow current extinguishing capability AC [I _n] | 100 Aeff |
| Operating time [t _a] | ≤ 100 ns |
| TOV-voltage | 1200 V / 200 ms |
| Temperature range (Parallel wiring) [T _{up}] | -40 ... +80 °C |
| Temperature range (Through wiring) [T _{us}] | -40 ... +60 °C |
| Function/failure indication | green / red |
| Wire range (min.) | 10 mm ² solid/fine-stranded |
| Wire range (max.) | 50 mm ² stranded/35 mm ² fine-stranded |
| Mounted on DIN rail acc. to EN 60715 | 35 mm |
| Housing material | Thermoplast, UL 94 V-0 |
| Degree of protection | IP 20 |
| Dimensions | 2 TE, DIN 43880 (36 mm) |
| Approvals | CE |

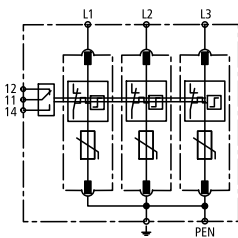


Three-phase combined arrester, type 2

For protection of sub-distributions or the control cabinet main supply

wietap G M TNC 275 (FM)

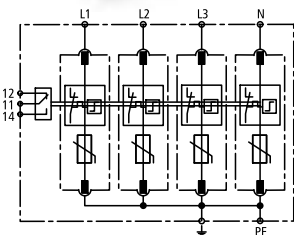
- Surge arrester, type 2
- For TN-C-systems
- With pluggable protection modules
- Function/failure indication according to VDE 0100-534
- Optional with remote signaling contact (FM)
- Vibration and shock tested acc. to EN 60068-2



| Type | Part No. |
|--|--|
| wietap G M TNC 275 | 84.995.2300.0 |
| wietap G M TNC 275 FM | 84.995.2305.0 |
| Replacement module L1, L2, L3 against \pm | 84.995.2010.0 |
| Power network | TN-C |
| SPD accord. to EN 61643-11 | Type 2 |
| SPD accord. to IEC 61643-1 | Class II |
| Nominal voltage AC [U _N] | 230/400 V |
| Nominal frequency [f _N] | 50 / 60 Hz |
| Maximum continuous voltage AC [U _c] | 275 V |
| Nominal discharge current (8/20) [I _n] | 20 kA |
| Max. discharge current (8/20) [I _{max}] | 40 kA |
| Protection level [U _p] | ≤ 1.25 kV |
| Protection level at 5 kA [U _p] | ≤ 1 kV |
| Operating time [t _a] | ≤ 25 ns |
| Maximum network overcurrent protection | 125 A gL/gG |
| Short-circuit proof with max. network overcurrent protection | 50 kA _{eff} |
| TOV-voltage [U _t] | 335 V / 5 sec. |
| Temperature range [T _U] | -40 ... +80 °C |
| Function/failure indication | green / red |
| Wire range (min.) | 1.5 mm ² solid/fine-stranded |
| Wire range (max.) | 35 mm ² stranded/25 mm ² fine-stranded |
| Mounted on DIN rail acc. to EN 60715 | 35 mm |
| Housing material | Thermoplast, UL 94 V-0 |
| Degree of protection | IP 20 |
| Dimensions | 3 TE, DIN 43880 (54 mm) |
| Remote signaling contacts = Contact Type | Change-over contact |
| Switching capacity AC (FM) | 250 V/0.5 A |
| Switching capacity DC (FM) | 250 V/0.1 A; 125 V/0.2 A; 75 V/0.5 A |
| Wire range for remote signaling terminals | max. 1.5 mm ² solid/fine-stranded |
| Approvals | CE |

wietap G M TNS 275 (FM)

- Surge arrester, type 2
- For TN-S-systems
- With pluggable protection modules
- Function/failure indication according to VDE 0100-534
- Optional with remote signaling contact (FM)
- Vibration and shock tested acc. to EN 60068-2



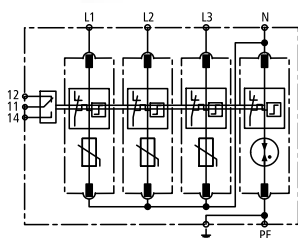
| Type | Part No. |
|--|--|
| wietap G M TNS 275 | 84.995.2400.0 |
| wietap G M TNS 275 FM | 84.995.2405.0 |
| Replacement module L1, L2, L3, N against \pm | 84.995.2010.0 |
| Power network | TN-S |
| SPD accord. to EN 61643-11 | Type 2 |
| SPD accord. to IEC 61643-1 | Class II |
| Nominal voltage AC [U _N] | 230/400 V |
| Nominal frequency [f _N] | 50 / 60 Hz |
| Maximum continuous voltage AC [U _c] | 275 V |
| Nominal discharge current (8/20) [I _n] | 20 kA |
| Max. discharge current (8/20) [I _{max}] | 40 kA |
| Protection level [U _p] | ≤ 1.25 kV |
| Protection level at 5 kA [U _p] | ≤ 1 kV |
| Operating time [t _a] | ≤ 25 ns |
| Maximum network overcurrent protection | 125 A gL/gG |
| Short-circuit proof with max. network overcurrent protection | 50 kA _{eff} |
| TOV-voltage [U _t] | 335 V / 5 sec. |
| Temperature range [T _U] | -40 ... +80 °C |
| Function/failure indication | green / red |
| Wire range (min.) | 1.5 mm ² solid/fine-stranded |
| Wire range (max.) | 35 mm ² stranded/25 mm ² fine-stranded |
| Mounted on DIN rail acc. to EN 60715 | 35 mm |
| Housing material | Thermoplast, UL 94 V-0 |
| Degree of protection | IP 20 |
| Dimensions | 4 TE, DIN 43880 (72 mm) |
| Remote signaling contacts = Contact Type | Change-over contact |
| Switching capacity AC (FM) | 250 V/0.5 A |
| Switching capacity DC (FM) | 250 V/0.1 A; 125 V/0.2 A; 75 V/0.5 A |
| Wire range for remote signaling terminals | max. 1.5 mm ² solid/fine-stranded |
| Approvals | CE |

Three-phase combined arrester, type 2

For protection of sub-distributions or the control cabinet main supply

wietap G M TT 275 (FM)

- Surge arrester, type 2
- For TT- and TN-S-systems ("3+1" circuits)
- With pluggable protection modules
- Function/failure indication according to VDE 0100-534
- Optional with remote signaling contact (FM)
- Vibration and shock tested acc. to EN 60068-2



| Type | Part No. |
|---|--|
| wietap G M TT 275 | 84.995.2310.0 |
| wietap G M TT 275 FM | 84.995.2315.0 |
| Replacement module L1, L2, L3 against N | 84.995.2010.0 |
| Replacement module N against \varnothing | 84.995.2050.0 |
| Power network | TT and TN-S (Variante „3+1“) |
| SPD accord. to EN 61643-11 | Type 2 |
| SPD accord. to IEC 61643-1 | Class II |
| Nominal voltage AC [U _N] | 230/400 V |
| Nominal frequency [f _N] | 50 / 60 Hz |
| Maximum continuous voltage AC [L-N] [U _c] | 275 V |
| Maximum continuous voltage AC [N-PE] [U _c] | 255 V |
| Nominal discharge current (8/20) [I _n] | 20 kA |
| Max. discharge current (8/20) [I _{max}] | 40 kA |
| Lightn. impulse current (10/350) [N-PE] [I _{imp}] | 12 kA |
| Protection level [L-N] [U _p] | ≤ 1.25 kV |
| Protection level [L-N] at 5 kA [U _p] | ≤ 1 kV |
| Protection level [N-PE] [U _p] | ≤ 1.5 kV |
| Follow current extinguishing capability [N-PE] [I _{eff}] | 100 A _{eff} |
| Operating time [L-N] [t _a] | ≤ 25 ns |
| Operating time [N-PE] [t _a] | ≤ 100 ns |
| Maximum network overcurrent protection | 125 A gL/gG |
| Short-circuit proof with network overcurrent protection with 25 A gL/gG | 50 kA _{eff} |
| TOV-voltage [L-N] [U _T] | 335 V / 5 sec. |
| TOV-voltage [N-PE] [U _T] | 1200 V / 200 ms |
| Temperature range [T _U] | -40 ... +80 °C |
| Function/failure indication | green / red |
| Wire range (min.) | 1.5 mm ² solid/fine-stranded |
| Wire range (max.) | 35 mm ² stranded/25 mm ² fine-stranded |
| Mounted on DIN rail acc. to EN 60715 | 35 mm |
| Housing material | Thermoplast, UL 94 V-0 |
| Degree of protection | IP 20 |
| Dimensions | 4 TE, DIN 43880 (72 mm) |
| Remote signaling contacts = Contact Type | Change-over contact |
| Switching capacity AC (FM) | 250 V/0.5 A |
| Switching capacity DC (FM) | 250 V/0.1 A; 125 V/0.2 A; 75 V/0.5 A |
| Wire range for remote signaling terminals | max. 1.5 mm ² solid/fine-stranded |
| Approvals | CE |

Replacement module for wietap G M devices

wietap G MOD 275

Varistor protection module for all L – \varnothing ; L – N and for wietap G M TNS 275 (FM) N – \varnothing



wietap G MOD NPE

Spark gap protection module for N – \varnothing and for wietap G M TT 275 (FM) N – \varnothing



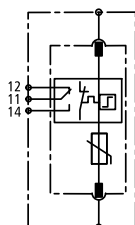
| Type | Part No. |
|-------------------------|---------------|
| wietap G MOD 275 | 84.995.2010.0 |
| wietap G MOD NPE | 84.995.2050.0 |

Single-phase surge arrester, type 2

For protection of sub-distributions or the control cabinet main supply

wietap G S 275 (FM)

- Surge arrester, type 2
- All-purpose surge arrester
- With pluggable protection modules
- High discharge capacity due to powerful zinc oxid varistor
- High reliability due to arrester monitoring
- Slim design (modular construction) acc. to DIN 43880
- Multi-function connection for conductors and comb rails
- Function/failure indication according to VDE 0100-534
- Optional with remote signaling contact (FM)
- Vibration and shock tested acc. to EN 60068-2



| Type | Part No. |
|--|--|
| wietap G S 275 | 84.995.2070.0 |
| wietap G S 275 FM | 84.995.2090.0 |
| Power network | universal |
| SPD accord. to EN 61643-11 | Type 2 |
| SPD accord. to IEC 61643-1 | Class II |
| Maximum continuous voltage AC [U _c] | 275 V |
| Nominal frequency [f _n] | 50 / 60 Hz |
| Maximum continuous voltage DC [U _c] | 350 V |
| Nominal discharge current (8/20) [I _n] | 20 kA |
| Max. discharge current (8/20) [I _{max}] | 40 kA |
| Protection level [U _p] | ≤ 1.25 kV |
| Protection level at 5 kA [U _p] | ≤ 1 kV |
| Operating time [t _a] | ≤ 25 ns |
| Maximum network overcurrent protection | 125 A gL/gG |
| Short-circuit proof with max. network overcurrent protection | 50 kA _{eff} |
| TOV-voltage [U _T] | 335 V / 5 sec. |
| Temperature range [T _U] | -40 ... +80 °C |
| Function/failure indication | green / red |
| Wire range (min.) | 1.5 mm ² solid/fine-stranded |
| Wire range (max.) | 35 mm ² stranded/25 mm ² fine-stranded |
| Mounted on DIN rail acc. to EN 60715 | 35 mm |
| Housing material | Thermoplast, UL 94 V-0 |
| Degree of protection | IP 20 |
| Dimensions | 1 TE, DIN 43880 (18 mm) |
| Remote signaling contacts = Contact Type | Change-over contact |
| Switching capacity AC (FM) | 250 V/0,5 A |
| Switching capacity DC (FM) | 250 V/0.1 A; 125 V/0.2 A; 75 V/0.5 A |
| Wire range for remote signaling terminals | max. 1.5 mm ² solid/fine-stranded |
| Approvals | CE |

wietap G MOD 275

- Replacement module for wietap G S 275 (FM)



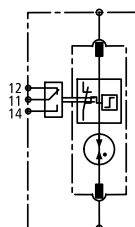
| Type | Part No. |
|-------------------------|---------------|
| wietap G MOD 275 | 84.995.2010.0 |

Single-phase surge arrester, type 2

For protection of sub-distributions or the control cabinet main supply

wietap GP C S (FM)

- Surge arrester, type 2
- For use in TT systems in "3+1" and "1+1" circuits acc. to E DIN VDE 0100-534 between neutral conductor N and protective conductor PE
- High discharge capacity
- With pluggable protection modules
- Function/failure indication according to VDE 0100-534
- Optional with remote signaling contact (FM)
- Vibration and shock tested acc. to EN 60068-2



| Type | Part No. |
|---|--|
| wietap GP C S | 84.995.2030.0 |
| wietap GP C S FM | 84.995.2035.0 |
| Power network | TT |
| SPD accord. to EN 61643-11 | Type 2 |
| SPD accord. to IEC 61643-1 | Class II |
| Maximum continuous voltage AC [U _c] | 255 V |
| Nominal frequency [f _N] | 50 / 60 Hz |
| Nominal discharge current (8/20) [I _n] | 20 kA |
| Max. discharge current (8/20) [I _{max}] | 40 kA |
| Follow current extinguishing capability [I _e] | 100 A _{eff} |
| Lightn. impulse current (10/350) [I _{imp}] | 12 kA |
| Protection level [U _p] | ≤ 1.5 kV |
| Operating time [t _a] | ≤ 100 ns |
| TOV-voltage [U _T] | 1200 V / 200 ms |
| Temperature range [T _U] | -40 ... +80 °C |
| Function/failure indication | green / red |
| Wire range (min.) | 1.5 mm ² solid/fine-stranded |
| Wire range (max.) | 35 mm ² stranded/25 mm ² fine-stranded |
| Mounted on DIN rail acc. to EN 60715 | 35 mm |
| Housing material | Thermoplast, UL 94 V-0 |
| Degree of protection | IP 20 |
| Dimensions | 1 TE, DIN 43880 (18 mm) |
| Remote signaling contacts = Contact Type | Change-over contact |
| Switching capacity AC(FM) | 250 V/0.5 A |
| Switching capacity DC (FM) | 250 V/0.1 A; 125 V/0.2 A; 75 V/0.5 A |
| Wire range for remote signaling terminals | max. 1.5 mm ² solid/fine-stranded |
| Approvals | CE |

wietap GP C MOD

- Replacement module for wietap G CS (FM)



| Type | Part No. |
|------------------------|---------------|
| wietap GP C MOD | 84.995.2060.0 |

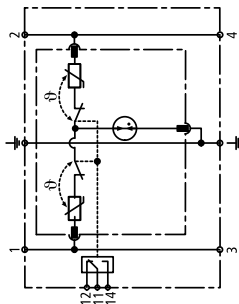


Surge arrester, type 3

For direct load protection in control cabinets or sub-distributions

wietap R M 2P 30 FM wietap R M 2P 255 (FM)

- Surge arrester, type 3
- Two-pole surge arrester
- High discharge capacity due to powerful zinc oxide varistor
- Slim design (modular construction) acc. to DIN 43880
- With pluggable protection modules
- Function/failure indication according to VDE 0100-534
- Optional with remote signaling contact (FM)
- Vibration and shock tested acc. to EN 60068-2



| Type | Part No. | Part No. |
|---|---|------------------------|
| wietap R M 2P 30 FM | | 84.995.3206.0 |
| wietap R M 2P 255 | 84.995.3200.0 | |
| wietap R M 2P 255 FM | 84.995.3205.0 | |
| SPD accord. to EN 61643-11 | Type 3 | Type 3 |
| SPD accord. to IEC 61643-1 | Class III | Category A / Class III |
| Nominal voltage AC [U _N] | 230 V | 24 V |
| Maximum continuous voltage AC [U _C] | 255 V | 30 V |
| Maximum continuous voltage DC [U _C] | 255 V | 30 V |
| Nominal load current AC [I _N] | 25 A | 25 A |
| Nominal discharge current (8/20) [I _N] | 3 kA | 1 kA |
| Total discharge current (8/20) [L+N-PE] [I _{total}] | 5 kA | 2 kA |
| Combined surge [U _{oc}] | 6 kV | 2 kV |
| Combined surge [L+N-PE] [U _{oc total}] | 10 kV | 4 kV |
| Protection level [L-N] [U _p] | ≤ 1250 V | ≤ 180 V |
| Protection level [L/N-PE] [U _p] | ≤ 1500 V | ≤ 630 V |
| Operating time [L-N] [t _A] | ≤ 25 ns | ≤ 25 ns |
| Operating time [L/N-PE] [t _A] | ≤ 100 ns | ≤ 100 ns |
| Maximum network overcurrent protection | 25 A gL/gG oder B 25 A | 25 A gL/gG or B 25 A |
| Short-circuit proof with network overcurrent protection with 25 A gL/gG | 6 kA _{rms} | 6 kA _{rms} |
| TOV-voltage [L-N] [U _T] | 335 V / 5 sec. | -- |
| TOV-voltage [L/N-PE] (I) [U _T] | 400 V / 5 sec. | -- |
| TOV-voltage [L+N-PE] (II) [U _T] | 1200 V + U _o / 200 ms | -- |
| Temperature range [T _U] | -40 ... +80 °C | |
| Function/failure indication | green / red | |
| Wire range min. | 0.5 mm ² solid/fine-stranded | |
| Wire range max. | 4 mm ² solid/2.5 mm ² fine-stranded | |
| Mounted on DIN rail acc. to EN 60715 | 35 mm | |
| Housing material | Thermoplast, UL 94 V-0 | |
| Degree of protection | IP 20 | |
| Dimensions | 1 TE, DIN 43880 (18 mm) | |
| Remote signaling contacts = Contact Type | Change-over contact | |
| Switching capacity AC (FM) | 250 V/0.5 A | |
| Switching capacity DC (FM) | 250 V/0.1 A; 125 V/0.2 A; 75 V/0.5 A | |
| Wire range for Remote signaling terminals | max. 1.5 mm ² solid/fine-stranded | |
| Approvals | | |

wietap R MOD 255

- Replacement module for wietap R M 2P 255 (FM)



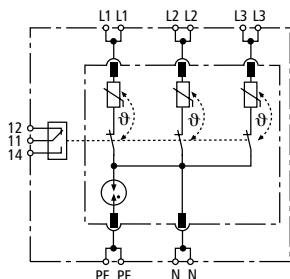
| Type | Part No. |
|-------------------------|---------------|
| wietap R MOD 255 | 84.995.3010.0 |

Surge arrester, type 3

For direct load protection in control cabinets or sub-distributions

wietap R M 4P 255 (FM)

- Surge arrester, type 3
- Four-pole surge arrester
- High discharge capacity due to powerful zinc oxide varistor
- Slim design (modular construction) acc. to DIN 43880
- With pluggable protection modules
- Function/failure indication according to VDE 0100-534
- Optional with remote signaling contact (FM)
- Vibration and shock tested acc. to EN 60068-2



| Type | Part No. |
|---|---|
| wietap R M 4P 255 | 84.995.3400.0 |
| wietap R M 4P 255 FM | 84.995.3405.0 |
| Technical Data | |
| SPD accord. to EN 61643-11 | Type 3 |
| SPD accord. to IEC 61643-1 | Class III |
| Nominal voltage AC [U _N] | 230/400 V |
| Maximum continuous voltage AC [U _c] | 255/440 V |
| Nominal load current AC [I _L] | 25 A |
| Nominal discharge current (8/20) [I _n] | 3 kA |
| Total discharge current (8/20) [L+N-PE] [I _{total}] | 8 kA |
| Combined surge [U _{oc}] | 6 kV |
| Combined surge [L+N-PE] [U _{oc total}] | 16 kV |
| Protection level [L-N] [U _p] | ≤ 1000 V |
| Protection level [L/N-PE] [U _p] | ≤ 1500 V |
| Operating time [L-N] [t _Δ] | ≤ 25 ns |
| Operating time [L/N-PE] [t _Δ] | ≤ 100 ns |
| Maximum network overcurrent protection | 25 A gL/gG oder B 25 A |
| Short-circuit proof with network overcurrent protection with 25 A gL/gG | 6 kA _{eff} |
| TOV-voltage [L-N] [U _T] | 335 V / 5 sec. |
| TOV-voltage [L/N-PE] (I) [U _T] | 400 V / 5 sec. |
| TOV-voltage [L+N-PE] (II) [U _T] | 1200 V + U ₀ / 200 ms |
| Temperature range [T _U] | -40 ... +80 °C |
| Function/failure indication | green / red |
| Wire range (min.) | 0.5 mm ² solid/fine-stranded |
| Wire range (max.) | 4 mm ² solid/2,5 mm ² fine-stranded |
| Mounted on DIN rail acc. to EN 60715 | 35 mm |
| Housingwerkstoff | Thermoplast, UL 94 V-0 |
| Degree of protection | IP 20 |
| Dimensions | 2 TE, DIN 43880 (36 mm) |
| Remote signaling contacts = Contact Type | Change-over contact |
| Switching capacity AC (FM) | 250 V/0.5 A |
| Switching capacity DC (FM) | 250 V/0.1 A; 125 V/0.2 A; 75 V/0.5 A |
| Wire range for remote signaling terminals | max. 1.5 mm ² solid/fine-stranded |
| Approvals | CE |

wietap R M MOD 4P 255

- Replacement module for wietap R M 4P 255



| Type | Part No. |
|------------------------------|---------------|
| wietap R M MOD 4P 255 | 84.995.3020.0 |



Selection Matrix

| Circuit | Circuit Voltage Configuration | Used Types | Connected between |
|-------------------|--|--|--|
| | 120/240V Split Phase 1Ø 3W + Grnd | wietap G S 150 FM UL wietap G S 150 FM UL | L1 Phase-Grnd L2 Phase-Grnd |
| | 240/480V Split Phase 1Ø 3W + Grnd | wietap G S 320 FM UL wietap G S 320 FM UL | L1 Phase-Grnd L2 Phase-Grnd |
| | 127/254V Split Phase 1Ø 3W + Grnd | wietap G S 150 FM UL wietap G S 150 FM UL | L1 Phase-Grnd L2 Phase-Grnd |
| | 120/208V Wye 3Ø 3W + Grnd | wietap G S 150 FM UL wietap G S 150 FM UL wietap G S 150 FM UL | L1 Phase-Grnd L2 Phase-Grnd L3 Phase-Grnd |
| | 277/480V Wye 3Ø 3W + Grnd | wietap G S 320 FM UL wietap G S 320 FM UL wietap G S 320 FM UL | L1 Phase-Grnd L2 Phase-Grnd L3 Phase-Grnd |
| | 347/600V Wye 3Ø 3W + Grnd | wietap G S 440 FM UL wietap G S 440 FM UL wietap G S 440 FM UL | L1 Phase-Grnd L2 Phase-Grnd L3 Phase-Grnd |
| | 120/208V Wye 3Ø 4W + Grnd | wietap G S 150 FM UL wietap G S 150 FM UL wietap G S 150 FM UL wietap G S 150 FM UL | L1 Phase-Grnd L2 Phase-Grnd L3 Phase-Grnd Neutral-Grnd |
| | 277/480V Wye 3Ø 4W + Grnd | wietap G S 320 FM UL wietap G S 320 FM UL wietap G S 320 FM UL wietap G S 320 FM UL | L1 Phase-Grnd L2 Phase-Grnd L3 Phase-Grnd Neutral-Grnd |
| | 347/600V Wye 3Ø 4W + Grnd | wietap G S 440 FM UL wietap G S 440 FM UL wietap G S 440 FM UL wietap G S 440 FM UL | L1 Phase-Grnd L2 Phase-Grnd L3 Phase-Grnd Neutral-Grnd |
| | 127/220V Wye 3Ø 4W + Grnd | wietap G S 150 FM UL wietap G S 150 FM UL wietap G S 150 FM UL wietap G S 150 FM UL | L1 Phase-Grnd L2 Phase-Grnd L3 Phase-Grnd Neutral-Grnd |
| | 120/240V High Leg Delta - B High | wietap G S 150 FM UL wietap G S 150 FM UL wietap G S 150 FM UL wietap G S 275 FM UL | L1 Phase-Neutral L3 Phase-Neutral Neutral-Grnd L2 Phase-Neutral |
| | 240/480V High Leg Delta - B High | wietap G S 320 FM UL wietap G S 320 FM UL wietap G S 320 FM UL wietap G S 600 FM UL | L1 Phase-Neutral L3 Phase-Neutral Neutral-Grnd L2 Phase-Neutral |
| | 480V Delta 3Ø 3W + Grnd & HRG Wye | wietap G S 600 FM UL wietap G S 600 FM UL wietap G S 600 FM UL | L1 Phase-Grnd L2 Phase-Grnd L3 Phase-Grnd |
| | 240V Delta 3Ø 3W + Grnd | wietap G S 320 FM UL wietap G S 320 FM UL wietap G S 320 FM UL | L1 Phase-Grnd L2 Phase-Grnd L3 Phase-Grnd |
| | 600V Delta 3Ø 3W + Grnd & HRG | wietap G S WE 600 FM UL wietap G S WE 600 FM UL wietap G S WE 600 FM UL | L1 Phase-Grnd L2 Phase-Grnd L3 Phase-Grnd |
| | 120V Single Phase | wietap G S 150 FM UL | L1 Phase-Neutral |
| | 240V Single Phase | wietap G S 320 FM UL | L1 Phase-Neutral |
| | 127V Single Phase | wietap G S 150 FM UL | L1 Phase-Neutral |
| | 254V Single Phase | wietap G S 320 FM UL | L1 Phase-Neutral |
| | 347V Single Phase | wietap G S 440 FM UL | L1 Phase-Neutral |
| | 277V Single Phase | wietap G S 320 FM UL | L1 Phase-Neutral |
| | 480V Single Phase | wietap G S 600 FM UL | L1 Phase-Neutral |
| 600V Single Phase | wietap G S WE 600 FM UL | L1 Phase-Neutral | |
| | 480V B Corner Grnd Delta 3Ø 3W + Grnd | wietap G S 600 FM UL wietap G S 600 FM UL | L1 Phase-Grnd L3 Phase-Grnd |
| | 240V B Corner Grnd Delta 3Ø 3W + Grnd | wietap G S 320 FM UL wietap G S 320 FM UL | L1 Phase-Grnd L3 Phase-Grnd |
| | 600V B Corner Grnd Delta 3Ø 3W + Grnd | wietap G S WE 600 FM UL wietap G S WE 600 FM UL | L1 Phase-Grnd L3 Phase-Grnd |

Overvoltage Protection for **North and Central America**

For the North and Central American region OVP modules have to be used with UL or CSA approval. At the same time the voltage levels are different compared to Europe or the Asian region.

For this reason Wieland offers specialized OVP modules. The green marked countries have energy network systems according UL and CSA mains systems and voltage levels.

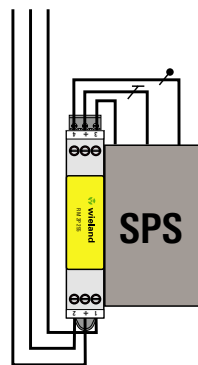
The overvoltage protection according IEEE is defined into 3 different areas:

- **Category C (Class I according IEC):** is mainly used at the feed in point of a building or production site. Mainly at outside termination
- **Category B (Class II according IEC):** this category is often used inside of buildings in main distribution panels or in switch board cabinets of machines
- **Category A (Class III according IEC):** is mainly used for the protection of single devices inside a switch board cabinet

Wieland is offering solutions for inside the building. This means for Category B and Category A.

At Category A applications the arrester is connected up front in series to the device.

The rated voltage of the OVP is selected according the nominal voltage of the device which is connected.



Category A

◀ **Solutions for Category B for the different mains systems**

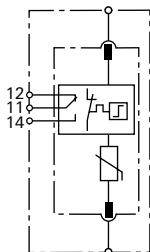


Single-phase surge arrester, category B & A

For protection of sub-distributions or the control cabinet main supply

wietap G S 150 FM UL wietap G S 275 FM UL

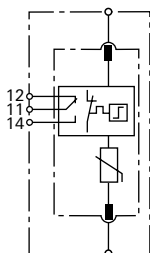
- Surge arrester, type 2, category B
- Multi-purpose surge arrester
- With plug-in protection module
- Thermo Dynamic Control SPD monitoring device
- Small housing
- Operating state/fault indication by indicator flag in window
- With signaling contact (FM)
- Schock and vibration tested according EN 60068-2



| Type | Part No. | Part No. |
|--|--|-----------------------|
| wietap G S 150 FM UL | 84.995.2092.1 | |
| wietap G S 275 FM UL | | 84.995.2090.1 |
| SPD accord. to EN 61643-11 | Type 2 | Type 2 |
| SPD accord. to IEC 61643-1 | Category B / Class II | Category B / Class II |
| Maximum continuous voltage AC [U _c] | 150 V | 275 V |
| Maximum continuous voltage DC [U _c] | 200 V | 350 V |
| Rated varistor voltage AC [U _{mov}] | 200 V | 350 V |
| Rated voltage (50/60 Hz) [V] | 150 V | 275 V |
| Max. continuous operating voltage [MCOV] | 150 V | 275 V |
| Voltage protection rating [VPR] | 700 V | 1000 V |
| Rated discharge current [I _n] | 20 kA | 20 kA |
| Max. discharge current (8/20) [I _{max}] | 40 kA | 40 kA |
| Protection level [U _p] | ≤ 0.7 kV | ≤ 1.25 kV |
| Protection level at 5 kA [U _p] | ≤ 0.55 kV | ≤ 1 kV |
| Operating time [t _a] | ≤ 25 ns | ≤ 25 ns |
| Maximum network overcurrent protection | 125 A gL/gG | 125 A gL/gG |
| Short-circuit proof with max. network overcurrent protection | 50 kA _{rms} | 50 kA _{rms} |
| TOV-voltage [U _T] | 175 V / 5 sec. | 335 V / 5 sec. |
| Temperature range [T _U] | 0... +85 °C | |
| Function/failure indication | green / red | |
| Wire range (min.) | 1.5 mm ² solid/fine-stranded / AWG 14 | |
| Wire range (max.) | 35 mm ² stranded/25 mm ² fine-stranded / AWG 2 | |
| Mounted on DIN rail acc. to EN 60715 | 35 mm | |
| Housing material | thermoplastic, UL 94 V-0 | |
| Degree of protection | IP 20 | |
| Dimensions | 1 mod., DIN 43880 | |
| Remote signaling contacts (FM) | changeover contact | |
| Switching capacity AC (FM) | 250 V/0.5 A | |
| Switching capacity DC (FM) | 250 V/0.1 A; 125 V/0.2 A; 75 V/0.5 A | |
| Wire range for remote signaling terminals | max. 1.5 mm ² solid/fine-stranded / max. AWG 14 | |
| Approvals | CE | |

wietap G S 320 FM UL wietap G S 385 FM UL

- Surge arrester, type 2, category B
- Multi-purpose surge arrester
- With plug-in protection module
- Thermo Dynamic Control SPD monitoring device
- Small housing
- Operating state/fault indication by indicator flag in window
- With signaling contact (FM)
- Schock and vibration tested according EN 60068-2



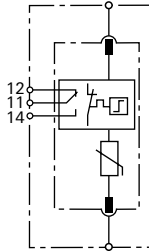
| Type | Part No. | Part No. |
|--|--|-----------------------|
| wietap G S 320 FM UL | 84.995.2093.1 | |
| wietap G S 385 FM UL | | 84.995.2094.1 |
| SPD accord. to EN 61643-11 | Type 2 | Type 2 |
| SPD accord. to IEC 61643-1 | Category B / Class II | Category B / Class II |
| Maximum continuous voltage AC [U _c] | 320 V | 385 V |
| Maximum continuous voltage DC [U _c] | 420 V | 500 V |
| Rated varistor voltage AC [U _{mov}] | 420 V | 500 V |
| Rated voltage (50/60 Hz) [V] | 320 V | 385 V |
| Max. continuous operating voltage [MCOV] | 320 V | 385 V |
| Voltage protection rating [VPR] | 1200 V | 1500 V |
| Rated discharge current [I _n] | 20 kA | 20 kA |
| Max. discharge current (8/20) [I _{max}] | 40 kA | 40 kA |
| Protection level [U _p] | ≤ 1.5 kV | ≤ 1.75 kV |
| Protection level at 5 kA [U _p] | ≤ 1.2 kV | ≤ 1.35 kV |
| Operating time [t _a] | ≤ 25 ns | ≤ 25 ns |
| Maximum network overcurrent protection | 125 A gL/gG | 125 A gL/gG |
| Short-circuit proof with max. network overcurrent protection | 25 kA _{rms} | 25 kA _{rms} |
| TOV-voltage [U _T] | 335 V / 5 sec. | 385 V / 5 sec. |
| Temperature range [T _U] | 0... +85 °C | |
| Function/failure indication | green / red | |
| Wire range (min.) | 1.5 mm ² solid/fine-stranded / AWG 14 | |
| Wire range (max.) | 35 mm ² stranded/25 mm ² fine-stranded / AWG 2 | |
| Mounted on DIN rail acc. to EN 60715 | 35 mm | |
| Housing material | thermoplastic, UL 94 V-0 | |
| Degree of protection | IP 20 | |
| Dimensions | 1 mod., DIN 43880 | |
| Remote signaling contacts (FM) | changeover contact | |
| Switching capacity AC (FM) | 250 V/0.5 A | |
| Switching capacity DC (FM) | 250 V/0.1 A; 125 V/0.2 A; 75 V/0.5 A | |
| Wire range for remote signaling terminals | max. 1.5 mm ² solid/fine-stranded / max. AWG 14 | |
| Approvals | CE | |

Single-phase surge arrester, category B & A

For protection of sub-distributions or the control cabinet main supply

wietap G S 440 FM UL wietap G S 600 FM UL

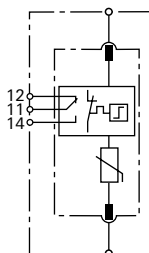
- Surge arrester, type 2, category B
- Multi-purpose surge arrester
- With plug-in protection module
- Thermo Dynamic Control SPD monitoring device
- Small housing
- Operating state/fault indication by indicator flag in window
- With signaling contact (FM)
- Schock and vibration tested according EN 60068-2



| Type | Part No. | Part No. |
|--|--|-----------------------|
| wietap G S 440 FM UL | 84.995.2095.1 | |
| wietap G S 600 FM UL | | 84.995.2096.1 |
| SPD accord. to EN 61643-11 | Type 2 | Type 2 |
| SPD accord. to IEC 61643-1 | Category B / Class II | Category B / Class II |
| Maximum continuous voltage AC [U _c] | 440 V | 600 V |
| Maximum continuous voltage DC [U _c] | 585 V | 600 V |
| Rated varistor voltage AC [U _{mov}] | 585 V | 600 V |
| Rated voltage (50/60 Hz) [V] | 440 V | 600 V |
| Max. continuous operating voltage [MCOV] | 440 V | 600 V |
| Voltage protection rating [VPR] | 1500 V | 2000 V |
| Rated discharge current [I _n] | 20 kA | 20 kA |
| Max. discharge current (8/20) [I _{max}] | 40 kA | 30 kA |
| Protection level [U _p] | ≤ 2 kV | ≤ 2.5 kV |
| Protection level at 5 kA [U _p] | ≤ 1.7 kV | ≤ 2 kV |
| Operating time [t _a] | ≤ 25 ns | ≤ 25 ns |
| Maximum network overcurrent protection | 125 A gL/gG | 100 A gL/gG |
| Short-circuit proof with max. network overcurrent protection | 25 kA _{rms} | 25 kA _{rms} |
| TOV-voltage [U _t] | 580 V / 5 sec. | 600 V / 5 sec. |
| Temperature range [T _U] | 0... +85 °C | |
| Function/failure indication | green / red | |
| Wire range (min.) | 1.5 mm ² solid/fine-stranded / AWG 14 | |
| Wire range (max.) | 35 mm ² stranded/25 mm ² fine-stranded / AWG 2 | |
| Mounted on DIN rail acc. to EN 60715 | 35 mm | |
| Housing material | thermoplastic, UL 94 V-0 | |
| Degree of protection | IP 20 | |
| Dimensions | 1 mod., DIN 43880 | |
| Remote signaling contacts (FM) | changeover contact | |
| Switching capacity AC (FM) | 250 V/0.5 A | |
| Switching capacity DC (FM) | 250 V/0.1 A; 125 V/0.2 A; 75 V/0.5 A | |
| Wire range for remote signaling terminals | max. 1.5 mm ² solid/fine-stranded / max. AWG 14 | |
| Approvals | CE cULus | |

wietap G S WE 600 FM UL

- Surge arrester, type 2, category B
- Multi-purpose surge arrester
- With plug-in protection module
- Thermo Dynamic Control SPD monitoring device
- Small housing
- Operating state/fault indication by indicator flag in window
- With signaling contact (FM)
- Schock and vibration tested according EN 60068-2



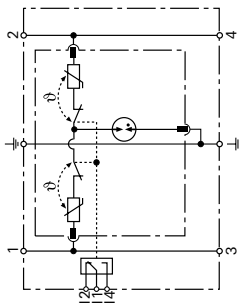
| Type | Part No. | Part No. |
|--|--|----------|
| wietap G S WE 600 FM UL | 84.995.2097.1 | |
| SPD accord. to EN 61643-11 | Type 2 | |
| SPD accord. to IEC 61643-1 | Category B / Class II | |
| Maximum continuous voltage AC [U _c] | 600 V | |
| Maximum continuous voltage DC [U _c] | 600 V | |
| Rated varistor voltage AC [U _{mov}] | 750V | |
| Rated voltage (50/60 Hz) [V] | 600 V | |
| Max. continuous operating voltage [MCOV] | 750 V | |
| Voltage protection rating [VPR] | 2500V | |
| Rated discharge current [I _n] | 10 kA | |
| Max. discharge current (8/20) [I _{max}] | 25 kA | |
| Protection level [U _p] | ≤ 3 kV | |
| Protection level at 5 kA [U _p] | ≤ 2.5 kV | |
| Operating time [t _a] | ≤ 25 ns | |
| Maximum network overcurrent protection | 100 A gL/gG | |
| Short-circuit proof with max. network overcurrent protection | 25 kA _{rms} | |
| TOV-voltage [U _t] | 900 V / 5 sec. | |
| Temperature range [T _U] | 0... +85 °C | |
| Function/failure indication | green / red | |
| Wire range (min.) | 1.5 mm ² solid/fine-stranded / AWG 14 | |
| Wire range (max.) | 35 mm ² stranded/25 mm ² fine-stranded / AWG 2 | |
| Mounted on DIN rail acc. to EN 60715 | 35 mm | |
| Housing material | thermoplastic, UL 94 V-0 | |
| Degree of protection | IP 20 | |
| Dimensions | 1 mod., DIN 43880 | |
| Remote signaling contacts (FM) | changeover contact | |
| Switching capacity AC (FM) | 250 V/0.5 A | |
| Switching capacity DC (FM) | 250 V/0.1 A; 125 V/0.2 A; 75 V/0.5 A | |
| Wire range for remote signaling terminals | max. 1.5 mm ² solid/fine-stranded / max. AWG 14 | |
| Approvals | CE cULus | |

Surge arrester, category A

For direct load protection in control cabinets or sub-distributions

wietap R M 2P 30 FM

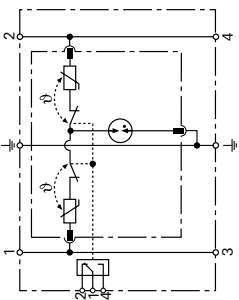
- Surge arrester, type 3
- Two-pole surge arrester
- High discharge capacity due to powerful zinc oxide varistor
- Slim design (modular construction) acc. to DIN 43880
- With pluggable protection modules
- Function/failure indication according to VDE 0100-534
- With remote signaling contact (FM)
- Vibration and shock tested acc. to EN 60068-2



| Type | Part No. |
|---|---|
| wietap R M 2P 30 FM | 84.995.3206.0 |
| Technical Data | |
| SPD accord. to EN 61643-11 | Type 3 |
| SPD accord. to IEC 61643-1 | Category A / Class III |
| Rated voltage (50/60 Hz) [V] | 24 V |
| Maximum continuous voltage AC [U _c] | 30 V |
| Maximum continuous voltage DC [U _c] | 30 V |
| Max. continuous operating voltage [MCOV] | 30 V |
| Voltage protection rating [VPR] | 330 V |
| Rated current AC | 20 A |
| Rated discharge current (8/20) [I _n] | 1 kA |
| Total discharge current (8/20) [L+N-PE] [I _{total}] | 2 kA |
| Combined surge [U _{oc}] | 2 kV |
| Combined surge [L+N-PE] [U _{oc total}] | 4 kV |
| Protection level [L-N] [U _p] | ≤ 180 V |
| Protection level [L/N-PE] [U _p] | ≤ 630 V |
| Operating time [L-N] [t _A] | ≤ 25 ns |
| Operating time [L/N-PE] [t _A] | ≤ 100 ns |
| Maximum network overcurrent protection | 25 A gL/gG or B 25 A |
| Short-circuit proof with network overcurrent protection with 25 A gL/gG | 6 kA _{rms} |
| Temperature range [T _U] | 0 ... +85 °C |
| Function/failure indication | green / red |
| Wire range (min.) | 0.5 mm ² solid/fine-stranded / AWG 20 |
| Wire range (max.) | 4 mm ² solid/2,5 mm ² fine-stranded / AWG 12/14 |
| Mounted on DIN rail acc. to EN 60715 | 35 mm |
| Housing material | thermoplastic, UL 94 V-0 |
| Degree of protection | IP 20 |
| Dimensions | 1 mod., DIN 43880 |
| Remote signaling contacts (FM) | changeover contact |
| Switching capacity AC (FM) | 250 V/0.5 A |
| Switching capacity DC (FM) | 250 V/0.1 A; 125 V/0.2 A; 75 V/0.5 A |
| Wire range for remote signaling terminals | max. 1.5 mm ² solid/fine-stranded / max. AWG 14 |
| Approvals | CE |

wietap R M 2P 150 FM

- Surge arrester, type 3
- Two-pole surge arrester
- High discharge capacity due to powerful zinc oxide varistor
- Slim design (modular construction) acc. to DIN 43880
- With pluggable protection modules
- Function/failure indication according to VDE 0100-534
- With remote signaling contact (FM)
- Vibration and shock tested acc. to EN 60068-2



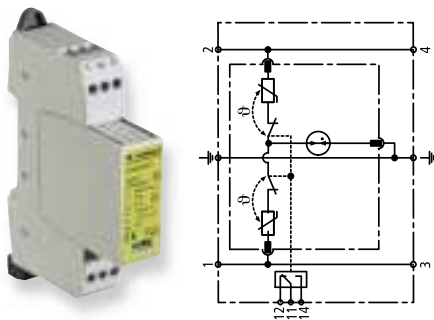
| Type | Part No. |
|---|---|
| wietap R M 2P 150 FM | 84.995.3209.0 |
| Technical Data | |
| SPD accord. to EN 61643-11 | Type 3 |
| SPD accord. to IEC 61643-1 | Category A / Class III |
| Rated voltage (50/60 Hz) | 120 V |
| Maximum continuous voltage AC [U _c] | 150 V |
| Maximum continuous voltage DC [U _c] | 150 V |
| Max. continuous operating voltage [MCOV] | 150 V |
| Voltage protection rating [VPR] | 700 V |
| Rated current AC | 20 A |
| Rated discharge current (8/20) [I _n] | 2 kA |
| Total discharge current (8/20) [L+N-PE] [I _{total}] | 4 kA |
| Combined surge [U _{oc}] | 4 kV |
| Combined surge [L+N-PE] [U _{oc total}] | 8 kV |
| Protection level [L-N] [U _p] | ≤ 640 V |
| Protection level [L/N-PE] [U _p] | ≤ 800 V |
| Operating time [L-N] [t _A] | ≤ 25 ns |
| Operating time [L/N-PE] [t _A] | ≤ 100 ns |
| Maximum network overcurrent protection | 25 A gL/gG or B 25 A |
| Short-circuit proof with network overcurrent protection with 25 A gL/gG | 6 kA _{rms} |
| Temperature range [T _U] | 0 ... +85 °C |
| Function/failure indication | green / red |
| Wire range (min.) | 0.5 mm ² solid/fine-stranded / AWG 20 |
| Wire range (max.) | 4 mm ² solid/2,5 mm ² fine-stranded / AWG 12/14 |
| Mounted on DIN rail acc. to EN 60715 | 35 mm |
| Housing material | thermoplastic, UL 94 V-0 |
| Degree of protection | IP 20 |
| Dimensions | 1 mod., DIN 43880 |
| Remote signaling contacts (FM) | changeover contact |
| Switching capacity AC (FM) | 250 V/0.5 A |
| Switching capacity DC (FM) | 250 V/0.1 A; 125 V/0.2 A; 75 V/0.5 A |
| Wire range for remote signaling terminals | max. 1.5 mm ² solid/fine-stranded / max. AWG 14 |
| Approvals | CE |

Surge arrester, category A

For direct load protection in control cabinets or sub-distributions

wietap R M 2P 255

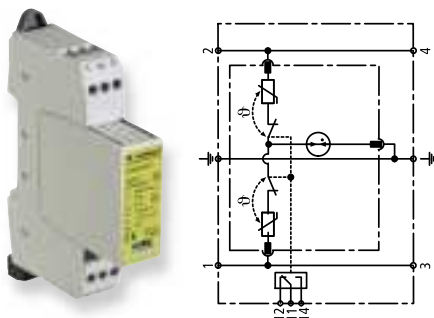
- Surge arrester, type 3
- Two-pole surge arrester
- High discharge capacity due to powerful zinc oxide varistor
- Slim design (modular construction) acc. to DIN 43880
- With pluggable protection modules
- Function/failure indication according to VDE 0100-534
- Vibration and shock tested acc. to EN 60068-2



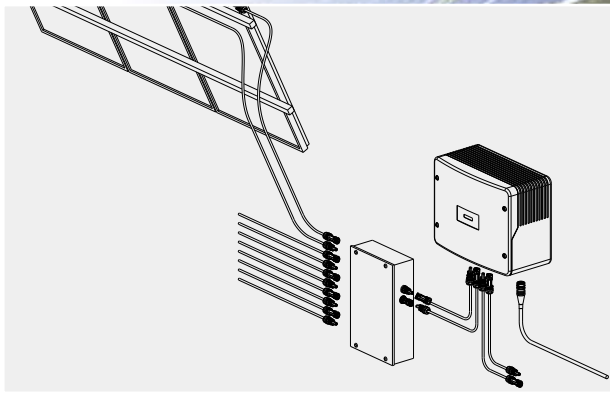
| Type | Part No. |
|---|---|
| wietap R M 2P 255 | 84.995.3200.0 |
| Technical Data | |
| SPD accord. to EN 61643-11 | Type 3 |
| SPD accord. to IEC 61643-1 | Category A / Class III |
| Rated voltage (50/60 Hz) [V] | 240 V |
| Maximum continuous voltage AC [U _c] | 255 V |
| Maximum continuous voltage DC [U _c] | 255 V |
| Max. continuous operating voltage [MCOV] | 255 V |
| Voltage protection rating [VPR] | 1200 V |
| Rated current AC | 20 A |
| Rated discharge current (8/20) [I _n] | 3 kA |
| Total discharge current (8/20) [L+N-PE] [I _{total}] | 5 kA |
| Combined surge [U _{oc}] | 6 kV |
| Combined surge [L+N-PE] [U _{oc total}] | 10 kV |
| Protection level [L-N] [U _p] | ≤ 1250 V |
| Protection level [L/N-PE] [U _p] | ≤ 1500 V |
| Operating time [L-N] [t _a] | ≤ 25 ns |
| Operating time [L/N-PE] [t _a] | ≤ 100 ns |
| Maximum network overcurrent protection | 25 A gL/gG or B 25 A |
| Short-circuit proof with network overcurrent protection with 25 A gL/gG | 6 kA _{rms} |
| TOV-voltage [L-N] [U _T] | 335 V / 5 sec. |
| TOV-voltage [L/N-PE] (I) [U _T] | 400 V / 5 sec. |
| TOV-voltage [L+N-PE] (II) [U _T] | 1200 V + UCS / 200 ms |
| Temperature range [T _u] | 0 ... +85 °C |
| Function/failure indication | green / red |
| Wire range (min.) | 0.5 mm ² solid/fine-stranded / AWG 20 |
| Wire range (max.) | 4 mm ² solid/2,5 mm ² fine-stranded / AWG 12/14 |
| Mounted on DIN rail acc. to EN 60715 | 35 mm |
| Housing material | thermoplastic, UL 94 V-0 |
| Degree of protection | IP 20 |
| Dimensions | 1 mod., DIN 43880 |
| Approvals | CE |

wietap R M 2P 255 FM

- Surge arrester, type 3
- Two-pole surge arrester
- High discharge capacity due to powerful zinc oxide varistor
- Slim design (modular construction) acc. to DIN 43880
- With pluggable protection modules
- Function/failure indication according to VDE 0100-534
- With remote signaling contact (FM)
- Vibration and shock tested acc. to EN 60068-2



| Type | Part No. |
|---|---|
| wietap R M 2P 255 FM | 84.995.3205.0 |
| Technical Data | |
| SPD accord. to EN 61643-11 | Type 3 |
| SPD accord. to IEC 61643-1 | Category A / Class III |
| Rated voltage (50/60 Hz) [V] | 240 V |
| Maximum continuous voltage AC [U _c] | 255 V |
| Maximum continuous voltage DC [U _c] | 255 V |
| Max. continuous operating voltage [MCOV] | 255 V |
| Voltage protection rating [VPR] | 1200 V |
| Rated current AC | 20 A |
| Rated discharge current (8/20) [I _n] | 3 kA |
| Total discharge current (8/20) [L+N-PE] [I _{total}] | 5 kA |
| Combined surge [U _{oc}] | 6 kV |
| Combined surge [L+N-PE] [U _{oc total}] | 10 kV |
| Protection level [L-N] [U _p] | ≤ 1250 V |
| Protection level [L/N-PE] [U _p] | ≤ 1500 V |
| Operating time [L-N] [t _a] | ≤ 25 ns |
| Operating time [L/N-PE] [t _a] | ≤ 100 ns |
| Maximum network overcurrent protection | 25 A gL/gG or B 25 A |
| Short-circuit proof with network overcurrent protection with 25 A gL/gG | 6 kA _{rms} |
| TOV-voltage [L-N] [U _T] | 335 V / 5 sec. |
| TOV-voltage [L/N-PE] (I) [U _T] | 400 V / 5 sec. |
| TOV-voltage [L+N-PE] (II) [U _T] | 1200 V + UCS / 200 ms |
| Temperature range [T _u] | 0 ... +85 °C |
| Function/failure indication | green / red |
| Wire range (min.) | 0.5 mm ² solid/fine-stranded / AWG 20 |
| Wire range (max.) | 4 mm ² solid/2,5 mm ² fine-stranded / AWG 12/14 |
| Mounted on DIN rail acc. to EN 60715 | 35 mm |
| Housing material | thermoplastic, UL 94 V-0 |
| Degree of protection | IP 20 |
| Dimensions | 1 mod., DIN 43880 |
| Remote signaling contacts (FM) | changeover contact |
| Switching capacity AC (FM) | 250 V/0.5 A |
| Switching capacity DC (FM) | 250 V/0.1 A; 125 V/0.2 A; 75 V/0.5 A |
| Wire range for remote signaling terminals | max. 1.5 mm ² solid/fine-stranded / max. AWG 14 |
| Approvals | CE |



Overvoltage protection for Photovoltaic systems

Photovoltaic systems, abbreviated as PV systems, are a considerable investment that must be protected from failure and damage. As these systems are installed outdoors, they are exposed to the danger of overvoltage from lightning strikes.

Overvoltage protection in the DC circuit with central inverters

The generator circuit (the PV modules) produces a direct current. Connecting the PV modules and arrays in series allows voltages of 1000 V to be reached. This combination with the fact that the generator circuit can continue to supply energy after overvoltage requires sophisticated technology for the overvoltage arrester.

DC overvoltage protection:

The PV/DC overvoltage arresters are specially designed for use in PV systems.

Both the housing technology and the connections are designed for the requirements of a PV systems high voltages and conductor cross-sections. With a width of only 36 or 48mm, the units are easily installed inside distribution panels, requiring the minimum of space.

- High discharge capacity due to powerful zinc-oxide varistor
- No fire hazard caused by permanent electric arc due to combined disconnect and short-circuit facility. Overload indicated in display window
- Signaling contacts for remote monitoring in all remote signaling types

AC overvoltage protection:

On the AC side of the inverters overvoltage protection must also be installed. The arresters listed here are the most commonly used versions.

Suitable units can be found inside the chapters **wietap** IEC and **wietap** UL/CSA.

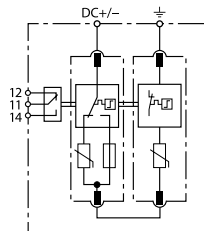


Surge protection for solar modules

To be used in photovoltaic DC circuits

wietap GS PV SCI 600 (FM)

- DC solar arrester for 600 V string voltage
- for DC grounded solar systems
- No fire hazard during overload due to combined disconnection and short-circuit device
- Safe, arc-free replacement of protection modules due to integrated DC fuse
- High discharge capacity
- Function/failure indication
- **wietap** GS PV SCI 600 FM with remote signaling contact (FM)



| Type | Part No. |
|--------------------------------|---------------|
| wietap GS PV SCI 600 | 84.995.2550.0 |
| wietap GS PV SCI 600 FM | 84.995.2555.0 |

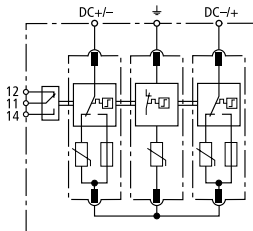
| Technical Data | |
|---|--|
| Connection between | DC – Grnd |
| Conformity according | prEN 50539-11 |
| SPD-accord. to EN 61643-11 | Type 2 |
| SPD-accord. to IEC 61643-1 | Class II |
| Maximum PV voltage [UPV _{max}] | ≤ 600 V |
| Protection level [U _P] | ≤ 2.5 kV |
| Protection level at 5 kA [U _P] | ≤ 2 kV |
| Nominal discharge current (8/20) [(DC+/DC-) → PE] [I _n] | 12.5 kA |
| Max. discharge current (8/20) [(DC+/DC-) → PE] [I _{max}] | 25 kA |
| Operating time [t _A] | ≤ 25 ns |
| Temperature range [T _U] | -40 ... +80 °C |
| Short-circuit resistance (I _{SCWPV}) | 1000 A |
| Function/failure indication | green / red |
| Wire range (min.) | 1.5 mm ² solid/fine-stranded / AWG 14 |
| Wire range (max.) | 35 mm ² stranded/25 mm ² fine-stranded / AWG 2 |
| Mounted on DIN rail acc. to EN 60715 | 35 mm |
| Housing material | Thermoplast, UL 94 V-0 |
| Degree of protection | IP 20 |
| Dimensions | 2 TE, DIN 43880 (36 mm) |
| Remote signaling contacts (FM) | Change-over contact |
| Switching capacity AC (FM) | 250 V/0.5 A |
| Switching capacity DC (FM) | 250 V/0.1 A; 125 V/0.2 A; 75 V/0.5 A |
| Wire range for remote signaling terminals | max. 1.5 mm ² solid/fine-stranded / max. AWG 14 |
| Approvals | CE |

Surge protection for solar modules

To be used in photovoltaic DC circuits

wietap GM YPV SCI 600 (FM)

- DC solar arrester for 600 V string voltage
- No fire hazard during overload due to combined disconnection and short-circuit device
- Safe, arc-free replacement of protection modules due to integrated DC fuse
- High discharge capacity
- Function/failure indication
- **wietap** GM YPV SCI 600 FM with remote signaling contact (FM)



| Type | Part No. |
|---|--|
| wietap GM YPV SCI 600 | 84.995.2511.0 |
| wietap GM YPV SCI 600 FM | 84.995.2516.0 |
| Repl. module "+" or "-" against int. neutral point | 84.995.2053.0 |
| Repl. module int. neutral point against \pm | 84.995.2010.0 |
| Technical Data | |
| Connection between | DC+ – Grnd – DC- |
| Confirmaty according | prEN 50539-11 |
| SPD-accord. to EN 61643-11 | Type 2 |
| SPD-accord. to IEC 61643-1 | Class II |
| Maximum PV voltage [UPV _{max}] | ≤ 600 V |
| Protection level [U _p] | ≤ 2.5 kV |
| Protection level at 5 kA [U _p] | ≤ 2 kV |
| Total discharge current (8/20) [I _{total}] | 40 kA |
| Nominal discharge current (8/20) [(DC+/DC-) → PE] [I _n] | 12.5 kA |
| Max. discharge current (8/20) [(DC+/DC-) → PE] [I _{max}] | 25 kA |
| Operating time [t _A] | ≤ 25 ns |
| Temperature range [T _v] | -40 ... +80 °C |
| Short-circuit resistance [I _{SCWPV}] | 1000 A |
| Function/failure indication | green / red |
| Wire range (min.) | 1.5 mm ² solid/fine-stranded / AWG 14 |
| Wire range (max.) | 35 mm ² stranded/25 mm ² fine-stranded / AWG 2 |
| Mounted on DIN rail acc. to EN 60715 | 35 mm |
| Housing material | Thermoplast, UL 94 V-0 |
| Degree of protection | IP 20 |
| Dimensions | 3 TE, DIN 43880 (54 mm) |
| Remote signaling contacts (FM) | Change-over contact |
| Switching capacity AC (FM) | 250 V/0.5 A |
| Switching capacity DC (FM) | 250 V/0.1 A; 125 V/0.2 A; 75 V/0.5 A |
| Wire range for remote signaling terminals | max. 1.5 mm ² solid/fine-stranded / max. AWG 14 |
| Approvals | CE |

Replacement module for wietap GM YPV SCI 600 (FM)

wietap G MOD PV SCI 300

"+" or "-" against internal neutral point

wietap G MOD 275

Internal neutral point against PE

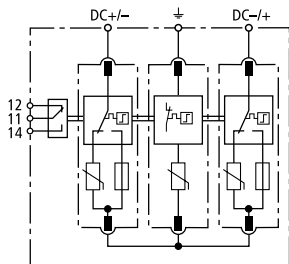
| Type | Part No. |
|--------------------------------|---------------|
| wietap G MOD PV SCI 300 | 84.995.2053.0 |
| wietap G MOD 275 | 84.995.2010.0 |

Surge protection for solar modules

To be used in photovoltaic DC circuits

wietap GM YPV SCI 1000 (FM)

- DC solar arrester for 1000 V string voltage
- No fire hazard during overload due to combined disconnection and short-circuit device
- Safe, arc-free replacement of protection modules due to integrated DC fuse
- High discharge capacity
- Function/failure indication
- **wietap** GM YPV SCI 1000 FM with remote signaling contact (FM)



| Type | Part No. |
|--|---------------|
| wietap GM YPV SCI 1000 | 84.995.2510.0 |
| wietap GM YPV SCI 1000 FM | 84.995.2515.0 |
| Repl. module "+" or "-" against int. neutral point | 84.995.2051.0 |
| Repl. module int. neutral point against \oplus | 84.995.2015.0 |

Technical Data

| | |
|---|--|
| Connection between | DC+ – Grnd – DC- |
| Confirmaty according | prEN 50539-11 |
| SPD-accord. to EN 61643-11 | Type 2 |
| SPD-accord. to IEC 61643-1 | Class II |
| Maximum PV voltage [UPV _{max}] | ≤ 1000 V |
| Protection level [U _P] | ≤ 4 kV |
| Protection level at 5 kA [U _P] | ≤ 3.5 kV |
| Total discharge current (8/20) [I _{total}] | 40 kA |
| Nominal discharge current (8/20) [(DC+/DC-) → PE] [I _n] | 12.5 kA |
| Max. discharge current (8/20) [(DC+/DC-) → PE] [I _{max}] | 25 kA |
| Operating time [t _A] | ≤ 25 ns |
| Temperature range [T _U] | -40 ... +80 °C |
| Short-circuit resistance (I _{scwPV}) | 1000 A |
| Function/failure indication | green / red |
| Wire range (min.) | 1.5 mm ² solid/fine-stranded / AWG 14 |
| Wire range (max.) | 35 mm ² stranded/25 mm ² fine-stranded / AWG 2 |
| Mounted on DIN rail acc. to EN 60715 | 35 mm |
| Housing material | Thermoplast, UL 94 V-0 |
| Degree of protection | IP 20 |
| Dimensions | 3 TE, DIN 43880 (54 mm) |
| Remote signaling contacts (FM) | Change-over contact |
| Switching capacity AC (FM) | 250 V/0.5 A |
| Switching capacity DC (FM) | 250 V/0.1 A; 125 V/0.2 A; 75 V/0.5 A |
| Wire range for remote signaling terminals | max. 1.5 mm ² solid/fine-stranded / max. AWG 14 |
| Approvals | CE eTÜV SÜD |

Replacement module for wietap GM YPV SCI 1000 (FM)

wietap G MOD PV SCI 500

"+" or "-" against internal neutral point

wietap G MOD 440

Internal neutral point against PE

| Type | Part No. |
|--------------------------------|---------------|
| wietap G MOD PV SCI 500 | 84.995.2051.0 |
| wietap G MOD 440 | 84.995.2015.0 |

Surge protection for solar modules

To be used in photovoltaic DC circuits

AC arrester on mains for Class 1/2/3



The used arrester type of the AC side is depending on the mains system.

A suitable arrester with the relevant certifications can be found in the previous chapters.



The suitable distribution for your project



AC combiner box



DC combiner box

Housing

| | |
|------------------|--------------------|
| Protection | Class II |
| UV-resistant | yes |
| Material | polycarbonate |
| Cable connection | pluggable or gland |

Build in components

- Termination points for solar connectors
- Big termination points for inverter connection
- PE connection
- String fusing
- Reverse current diodes
- String monitoring
- Main switch
- Circuit breaker
- Overvoltage protection and many more

Wieland will support you during the planning phase. High product quality and documentation are a standard for us.

More information and a planning tool can be found in the brochure **gesis** SOLAR, Part No. 0064.0, and at <http://solar.gesis.wieland-electric.de>







wipos Power supply units


Pure Power. No-Frills.


Power supplies perform a central function in the control cabinet. Their reliability affects the availability of the machine or the process to a great degree. That is why a robust and proven design is very important for a power supply unit. There are no unnecessary frills with the **wipos** family. Instead, these power supply units score with their fundamental features.


wipos satisfies your requirements in the significant disciplines:


 **100% power** up to 60°C


 **Automatic or wide-input voltage range** for worldwide use


 **PFC-technology** for high functional reliability


 **Outdoor installation possible** due to wide temperature range

 **Active monitoring** with signalling contact

 Can be connected in **parallel (from 5 A)** to increase power and redundancy

 **High operational reliability** due to long hold-up times >30 ms

 **Compensation of voltage drops** via adjustable output voltage

 **Easy to commission** via LED diagnosis



wipos P1 Modules

Power supply wipos
P1 24-1.25
P1 24-2.5



| Type | Part No. | Part No. |
|---------------------------|------------------------------------|------------------------------------|
| wipos P1 24-1.25 | 81.000.6110.0 | |
| wipos P1 24-2.5 | | 81.000.6120.0 |
| Technical Data | | |
| Input voltage | 85 – 264 V AC, 90 – 375 V DC | |
| PFC | not necessary | not necessary |
| Hold up time | > 30 ms at 230 V | > 30 ms at 230 V |
| Output voltage | 24 – 28 V | 24 – 28 V |
| Output current | 1.25 A | 2.5 A |
| Parallel operation | no | no |
| In series connectable | yes | yes |
| Temperature range | -40 ... +70 °C | -40 ... +70 °C |
| Derating | >60 °C | > 60 °C |
| Signal contact | yes | yes |
| Dimensions (mm) W x H x D | 43.5 x 88.5 x 114 | 43.5 x 88.5 x 114 |
| Weight | 290 g | 360 g |
| Type of connectors | Screw terminal | Screw terminal |
| Connector size | 0.2 – 2.5 mm ² | 0.2 – 2.5 mm ² |
| Efficiency | 83 – 86 % | 86 – 89 % |
| Approvals | CE UL 1310 Class 2, Class I Div.2 | CE UL 1310 Class 2, Class I Div.2 |

Power supply wipos
P1 24-3.8
P1 24-5



| Type | Part No. | Part No. |
|---------------------------|------------------------------------|-------------------------|
| wipos P1 24-3.8 | 81.000.6135.0 | |
| wipos P1 24-5 | | 81.000.6130.0 |
| Technical Data | | |
| Input voltage | 115/230V AC auto, 210 – 375 V DC | |
| PFC | yes | yes |
| Hold up time | > 30 ms at 230 V | > 30 ms at 230 V |
| Output voltage | 22.5 – 24,5 V | 22.5 – 28.5 V |
| Output current | 3.8 A | 5 A |
| Parallel operation | no | yes (up to 3) |
| In series connectable | yes | yes |
| Temperature range | -35 ... +70 °C | -35 ... +70 °C |
| Derating | >60 °C | > 60 °C |
| Signal contact | yes | yes |
| Dimensions (mm) W x H x D | 63.2 x 123.6 x 123.6 | 63.2 x 123.6 x 123.6 |
| Weight | 920 g | 920 g |
| Type of connectors | Screw terminal | Screw terminal |
| Connector size | 0.5 – 6 mm ² | 0.5 – 6 mm ² |
| Efficiency | 83 – 85 % | 84 – 86 % |
| Approvals | CE UL 1310 Class 2, Class I Div.2 | CE Class I Div.2 |

Power supply wipos
P1 24-10
P1 24-20



| Type | Part No. | Part No. |
|---------------------------|-------------------------------|------------------------------|
| wipos P1 24-10 | 81.000.6140.0 | |
| wipos P1 24-20 | | 81.000.6150.0 |
| Technical Data | | |
| Input voltage | 115/230V AC auto, 210–375V DC | 115/230V AC auto 120–370V DC |
| PFC | yes | yes |
| Hold up time | > 30 ms at 230 V | > 30 ms at 230 V |
| Output voltage | 22.5 – 28.5 V | 22.5 – 28.5 V |
| Output current | 10 A | 20A |
| Parallel operation | yes (up to 3) | yes (up to 3) |
| In series connectable | yes | yes |
| Temperature range | -40 ... +70 °C | -40 ... +70 °C |
| Derating | > 60 °C | > 55 °C |
| Signal contact | yes | yes |
| Dimensions (mm) W x H x D | 83 x 123.6 x 123.6 | 175 x 123.6 x 123.6 |
| Weight | 1300 g | 1920 g |
| Type of connectors | Screw terminal | Screw terminal |
| Connector size | 0.5 – 6 mm ² | 0.5 – 6 mm ² |
| Efficiency | 87 – 89 % | 86 – 89 % |
| Approvals | CE Class I Div.2 | CE Class I Div.2 |

wipos P1 Modules

Power supply *wipos* P1 12-5



| Type | Part No. |
|---------------------------|------------------------------|
| wipos P1 12-5 | 81.000.6132.0 |
| Technical Data | |
| Input voltage | 85 – 264 V AC, 90 – 375 V DC |
| PFC | not necessary |
| Hold up time | >30 ms at 230 V |
| Output voltage | 12 – 14 V |
| Output current | 5 A |
| Parallel operation | no |
| In series connectable | yes |
| Temperature range | -40 ... +70 °C |
| Derating | >61 °C |
| Signal contact | no |
| Dimensions (mm) W x H x D | 90 x 40.5 x 114 |
| Weight | 340 g |
| Type of connectors | Screw terminal |
| Connector size | 0.2 – 2,5 mm ² |
| Efficiency | 86 % |
| Approvals | CE UL 1310 Class 2 |

Power supply *wipos* P1 12-10



| Type | Part No. |
|---------------------------|------------------------------------|
| wipos P1 12-10 | 81.000.6142.0 |
| Technical Data | |
| Input voltage | 115/230V AC auto, 210 – 375 V DC |
| PFC | not necessary |
| Hold up time | >30 ms at 230 V |
| Output voltage | 11,4 – 14,5 V |
| Output current | 10 A |
| Parallel operation | yes (up to 3) |
| In series connectable | yes |
| Temperature range | -35 ... +70 °C |
| Derating | >61 °C |
| Signal contact | no |
| Dimensions (mm) W x H x D | 124.5 x 64 x 123.6 |
| Weight | 920 g |
| Type of connectors | Screw terminal |
| Connector size | 0.5 – 6 mm ² |
| Efficiency | 84 % |
| Approvals | CE UL 1310 Class 2, Class I Div.2 |

Power supply *wipos* P1 48-5



| Type | Part No. |
|---------------------------|---|
| wipos P1 48-5 | 81.000.6134.0 |
| Technical Data | |
| Input voltage | 115/230 V AC auto, 210 – 375 V DC |
| PFC | not necessary |
| Hold up time | >30 ms at 230 V |
| Output voltage | 47 – 56 V |
| Output current | 5 A |
| Parallel operation | yes (up to 3) |
| In series connectable | yes |
| Temperature range | -40 ... +70 °C |
| Derating | >61 °C |
| Signal contact | no |
| Dimensions (mm) W x H x D | 124.5 x 83.5 x 123.6 |
| Weight | 1380 g |
| Type of connectors | Screw terminal |
| Connector size | 0,5 – 6 mm ² solid/fine str. |
| Efficiency | 90 % |
| Approvals | CE UL 1310 Class 2, Class I Div.2 |



wipos P3 Modules

Power supply *wipos* P3 24-5 P3 24-10



| Type | Part No. | Part No. |
|---------------------------|---------------------------|---------------------------|
| wipos P3 24-5 | 81.000.6160.0 | |
| wipos P3 24-10 | | 81.000.6170.0 |
| Technical Data | | |
| Input voltage | 340 – 575VAC 480 – 820VDC | 340 – 575VAC 480 – 820VDC |
| PFC | yes (0.55) | yes (0.6) |
| Hold up time | 20 ms | 20 ms |
| Output voltage | 22.5 – 28.5 V | 22.5 – 28.5 V |
| Output current | 5 A | 10 A |
| Parallel operation | yes (up to 2) | yes (up to 2) |
| In series connectable | yes | yes |
| Temperature range | -40 ... +70 °C | -40 ... +70 °C |
| Derating | >60 °C | >60 °C |
| Signal contact | yes | yes |
| Dimensions (mm) W x H x D | 75 x 123.6 x 118.2 | 89 x 123.6 x 118.2 |
| Weight | 800 g | 1100 g |
| Type of connectors | Screw terminal | Screw terminal |
| Connector size | to 6 mm ² | to 6 mm ² |
| Efficiency | 88 – 90 % | 88 – 90 % |
| Approvals | CE Class I Div.2 | CE Class I Div.2 |

Power supply *wipos* P3 24-20



| Type | Part No. |
|---------------------------|---------------------------|
| wipos P3 24-20 | 81.000.6180.0 |
| Technical Data | |
| Input voltage | 340 – 575VAC 480 – 820VDC |
| PFC | yes (0.7) |
| Hold up time | 20 ms |
| Output voltage | 22.5 – 28.5 V |
| Output current | 20 A |
| Parallel operation | yes (up to 2) |
| In series connectable | yes |
| Temperature range | -30 ... +70 °C |
| Derating | >60 °C |
| Signal contact | yes |
| Dimensions (mm) W x H x D | 150 x 123.6 x 118.2 |
| Weight | 1750 g |
| Type of connectors | Screw terminal |
| Connector size | to 6 mm ² |
| Efficiency | 88 – 90 % |
| Approvals | CE Class I Div.2 |

Power supply *wipos* P3 24-40



| Type | Part No. |
|---------------------------|---|
| wipos P3 24-40 | 81.000.6190.0 |
| Technical Data | |
| Input voltage | 340 – 575VAC 480 – 820VDC |
| PFC | yes (0.7) |
| Hold up time | 15 ms |
| Output voltage | 22.5 – 28.5 V |
| Output current | 40 A |
| Parallel operation | yes (up to 2) |
| In series connectable | yes |
| Temperature range | -40 ... +70 °C |
| Derating | >60 °C |
| Signal contact | yes |
| Dimensions (mm) W x H x D | 275.8 x 125.9 x 118.2 |
| Weight | 3200 g |
| Type of connectors | Screw terminal |
| Connector size | to 6 mm ² / output to 16 mm ² |
| Efficiency | 90 – 92 % |
| Approvals | CE Class I Div.2 |

Further Modules available on request.

wipos Modules

Redundancy module *wipos* R20



| Type | Part No. |
|------------------------------------|---------------------------------------|
| wipos R20 | 81.000.6200.0 |
| Technical Data | |
| Input voltage | 21 – 28 V DC |
| Input current | 20 A (in total) |
| Output current | 20 A |
| Typical voltage drop | 0.5 V |
| Temperature range | -40 ... +70 °C |
| Signal contact | one each for channel A and B |
| Signal contact | 1 A at 30 V DC |
| Display/Relay OK | Input voltage 20...30 V (+/-5 %) |
| Display/Relay fail | Input voltage <20 V or >30 V (+/-5 %) |
| Dimensions (mm) W x H x D | 54 x 90 x 114 |
| Weight | 210 g |
| Type of connectors | Screw terminal |
| Connector size | 0.2 – 2.5 mm ² |
| Connector size for signal contacts | 0.2 – 1.5 mm ² |
| Approvals | CE |

Fusing module *wipos* FM 4-10



| Type | Part No. |
|--------------------------------|--|
| wipos FM 4-10 | 81.000.6210.0 |
| Technical Data | |
| Input voltage | 18 – 30 V |
| Output current via all 4 fuses | 40 A max. |
| Output voltage | 24 V (equivalent to input voltage) |
| Number of fusing circuits | 4 |
| Nominal current of fuse | max. 10 A (check power losses of fuse) |
| Fuses | 4 x G-fuse holder 5 x 20 mm |
| LED | one per fuse, LED lights whe fuse is broken |
| Alarm contact | yes |
| Temperature range | 0 ... +60 °C |
| Dimensions (mm) W x H x D | 48 x 96 x 68 |
| Mounting type | DIN rail mounting |
| Weight | 110 g |
| Type of connectors | Screw terminal |
| Connector size input | 10 mm ² |
| Connector size output | 0.14 – 4 mm ² (solid), 0.14 – 2.5 mm ² (fine-stranded) |
| Approvals | CE |

Uninterrupted power supply *wipos* UPS 24-30



| Type | Part No. |
|---|------------------------|
| wipos UPS 24-30 | 81.000.6220.0 |
| Technical Data | |
| Rated input voltage U _{IN} | 24 V DC |
| Input current | max. 35 A |
| Rated output voltage U _{OUT} | 24 V DC |
| Output current I _{OUT} | max. 30 A |
| Output voltage (battery mode) | 18.7 – 28.0 V |
| Output current (battery mode) | max. 30 A |
| Temperature range | -40 ... +70 °C |
| Derating | > 51 °C |
| Signal contact mains or battery current | yes |
| Signal contact discharge battery | yes |
| Signal contact broken battery | yes |
| Batterie type | Lead-acid or lead-gel |
| Batterie size | 2 ... 12 Ah / 2 x 12 V |
| Dimensions (mm) W x H x D | 54 x 90 x 115 |
| Weight | 370 g |
| Type of connectors | Screw terminal |
| Connector size | 0.2–4 mm ² |
| Approvals | CE |



wipos PB1 Modules

Power supply wipos
PB1 5-1.5
PB1 5-3



| Type | Part No. | Part No. |
|-------------------------|--|--|
| wipos PB1 5-1.5 | 81.000.6321.0 | |
| wipos PB1 5-3 | | 81.000.6331.0 |
| Technical Data | | |
| Input voltage | 90 – 264 V AC, 120 – 375 V DC | 90 – 264 V AC, 120 – 375 V DC |
| PFC | not necessary | not necessary |
| Hold up time | > 30 ms at 230 V | > 80 ms at 230 V |
| Output voltage | 5 V | 5 – 5.5 V |
| Output current | 1.5 A | 3 A |
| Temperature range | -40 ... +70 °C | -40 ... +70 °C |
| Derating | > 61 °C | > 61 °C |
| LED display | yes | yes |
| Dimensions W x H x D | 91 x 18 x 57 | 91 x 35 x 57 |
| Installation dimensions | for junction boxes and flat control panels | for junction boxes and flat control panels |
| Mounting type | DIN rail mounting | DIN rail mounting |
| Weight | 65 g | 130 g |
| Type of connectors | Screw terminal | Screw terminal |
| Connector size | 0.2 – 2.5 mm ² | 0.2 – 2.5 mm ² |
| Efficiency | 74 % | 82 % |
| Approvals | CE Class I Div.2 | CE |

Power supply wipos
PB1 12-0.83
PB1 24-0.42



| Type | Part No. | Part No. |
|--------------------------|--|--|
| wipos PB1 12-0.83 | 81.000.6302.0 | |
| wipos PB1 24-0.42 | | 81.000.6300.0 |
| Technical Data | | |
| Input voltage | 90 – 264 V AC, 120 – 375 V DC | 90 – 264 V AC, 120 – 375 V DC |
| PFC | not necessary | not necessary |
| Hold up time | > 30 ms at 230 V | > 30 ms at 230 V |
| Output voltage | 12 V | 24 – 28 V |
| Output current | 0.83 A | 0.42 A |
| Temperature range | -40 ... +70 °C | -25 ... +70 °C |
| Derating | > 61 °C: 100 %, 70 °C: 75 % | > 60 °C |
| LED display | yes | yes |
| Dimensions W x H x D | 91 x 18 x 57 | 18 x 91 x 56.5 |
| Installation dimensions | for junction boxes and flat control panels | for junction boxes and flat control panels |
| Mounting type | DIN rail mounting | DIN rail mounting |
| Weight | 65 g | 65 g |
| Type of connectors | Screw terminal | Screw terminal |
| Connector size | 0.2 – 2.5 mm ² | 0.2 – 2.5 mm ² |
| Efficiency | 78 % | 80 % |
| Approvals | CE Class I Div.2 | CE Class I Div.2 |

Power supply wipos
PB1 12-2
PB1 24-1



| Type | Part No. | Part No. |
|-------------------------|--|--|
| wipos PB1 12-2 | 81.000.6322.0 | |
| wipos PB1 24-1 | | 81.000.6310.0 |
| Technical Data | | |
| Input voltage | 90 – 264 V AC, 120 – 375 V DC | 90 – 264 V AC, 120 – 375 V DC |
| PFC | not necessary | not necessary |
| Hold up time | > 80 ms at 230 V | > 80 ms at 230 V |
| Output voltage | 12 – 14 V | 24 – 28 V |
| Output current | 2 A | 1 A |
| Temperature range | -40 ... +70 °C | -25 ... +70 °C |
| Derating | > 61 °C: 100 %, 70 °C: 75 % | > 60 °C |
| LED display | yes | yes |
| Dimensions W x H x D | 91 x 35 x 57 | 35 x 91 x 56.5 |
| Installation dimensions | for junction boxes and flat control panels | for junction boxes and flat control panels |
| Mounting type | DIN rail mounting | DIN rail mounting |
| Weight | 130 g | 130 g |
| Type of connectors | Screw terminal | Screw terminal |
| Connector size | 0.2 – 2.5 mm ² | 0.2 – 2.5 mm ² |
| Efficiency | 84 % | 85 % |
| Approvals | CE | CE |

wipos PB1 Modules

Power supply *wipos* PB1 12-2.75 PB1 24-1.5



| Type | Part No. | Part No. |
|--------------------------|--|--|
| wipos PB1 12-2.75 | 81.000.6332.0 | |
| wipos PB1 24-1.5 | | 81.000.6320.0 |
| Technical Data | | |
| Input voltage | 90 – 264 V AC, 120 – 375 V DC | 90 – 264 V AC, 120 – 375 V DC |
| PFC | not necessary | not necessary |
| Hold up time | > 60 ms at 230 V | > 100 ms at 230 V |
| Output voltage | 12 – 14 V | 24 – 28 V |
| Output current | 4.5 A | 1.5 A |
| Temperature range | -40 ... +70 °C | -25 ... +70 °C |
| Derating | > 56 °C | > 56 °C |
| LED display | yes | yes |
| Dimensions W x H x D | 91 x 71 x 57 | 53 x 91 x 56.5 |
| Installation dimensions | for junction boxes and flat control panels | for junction boxes and flat control panels |
| Mounting type | DIN rail mounting | DIN rail mounting |
| Weight | 250 g | 190 g |
| Type of connectors | Screw terminal | Screw terminal |
| Connector size | 0.2 – 2.5 mm ² | 0.2 – 2.5 mm ² |
| Efficiency | 84 % | 84 % |
| Approvals | CE | CE |

Power supply *wipos* PB1 12-4.5 PB1 24-2.5



| Type | Part No. | Part No. |
|-------------------------|--|--|
| wipos PB1 12-4.5 | 81.000.6342.0 | |
| wipos PB1 24-2.5 | | 81.000.6330.0 |
| Technical Data | | |
| Input voltage | 90 – 264 V AC, 120 – 375 V DC | 90 – 264 V AC, 120 – 375 V DC |
| PFC | not necessary | not necessary |
| Hold up time | > 60 ms at 230 V | > 60 ms at 230 V |
| Output voltage | 12 – 14 V | 24 – 28 V |
| Output current | 4,5 A | 2.5 A |
| Temperature range | -40 ... +70 °C | -25 ... +70 °C |
| Derating | > 56 °C | > 60 °C |
| LED display | ja | yes |
| Dimensions W x H x D | 91 x 71 x 57 | 71 x 91 x 56.5 |
| Installation dimensions | for junction boxes and flat control panels | for junction boxes and flat control panels |
| Mounting type | DIN rail mounting | DIN rail mounting and screw connection |
| Weight | 250 g | 250 g |
| Type of connectors | Screw terminal | Screw terminal |
| Connector size | 0.2 – 2.5 mm ² | 0.2 – 2.5 mm ² |
| Efficiency | 84 % | 86 % |
| Approvals | CE Class I Div.2 | CE Class I Div.2 |

Power supply *wipos* PB1 24-4.2



| Type | Part No. |
|-------------------------|--|
| wipos PB1 24-4.2 | 81.000.6340.0 |
| Technical Data | |
| Input voltage | 90 – 264 V AC, 120 – 375 V DC |
| PFC | not necessary |
| Hold up time | > 60 ms at 230 V |
| Output voltage | 24 – 28 V |
| Output current | 4.2 A |
| Temperature range | -40 ... +70 °C |
| Derating | > 60 °C |
| LED display | yes |
| Dimensions W x H x D | 90 x 91 x 57 |
| Installation dimensions | for junction boxes and flat control panels |
| Mounting type | DIN rail mounting and screw connection |
| Weight | 380 g |
| Type of connectors | Screw terminal |
| Connector size | 0.2 – 2.5 mm ² |
| Efficiency | 89 % |
| Approvals | CE Class I Div.2 |





Industrial Ethernet switches

Safe and fast communication
for your process.

Ethernet connections have become part of many areas of life. This global standard is also making inroads into automation technology. Ethernet switches have become quite common for safe networking and coupling between machines, or inside the system. They manage the data flow in an effective and target-oriented manner. The devices are designed to be very robust and are optimally suited to harsh industrial environments.




Benefits:

- Redundant power supply
- Full compatibility according to IEEE 802.3, including autocrossing, autonegotiation, autosensing, auto-polarity
- Complete diagnostics display via various LEDs
- Compact design
- DIN rail mounting or screw connection
- Robust designs
- High degree of protection (IP40)




Ethernet Switches (Fast Ethernet)

wienet UMS 6-L



| Type | Part No. |
|--|--|
| wienet UMS 6-L | 83.040.0000.1 |
| Technical Data | |
| Number of ports | 6 RJ45 ports |
| Port types | 6 x Ethernet and Fast Ethernet (10/100 Mbit/s) |
| Store and forward switching mode | yes |
| Autocrossing | yes |
| Autonegotiation | yes |
| Autosensing | yes |
| Autopolarity | yes |
| Full IEEE 802.3 compatibility | yes |
| Line, star and network topologies are possible | yes |
| Operating voltage | 9 ... 30 V DC |
| Redundant power supply | 2 infeeds |
| Diagnostic LEDs (power / link status / data / data rate) | yes / yes / yes / yes |
| Operating temperature | 0 ... +60 °C |
| Dimensions (mm) W x H x D | 45 x 91 x 80 |
| Housing | Thermoset |
| Mounting | DIN rail and screw mounting |
| Type of connectors | Screw terminal, pluggable |
| Connector size | up to 1.5 mm ² |
| Weight | 160 g |
| Degree of protection | IP 40 |
| Approvals | CE cULus FCC |

wienet UMS 6




| Type | Part No. |
|--|--|
| wienet UMS 6 | 83.040.0000.0 |
| Technical Data | |
| Number of ports | 6 RJ45 ports |
| Port types | 6 x Ethernet and Fast Ethernet (10/100 Mbit/s) |
| Store and forward switching mode | yes |
| Autocrossing | yes |
| Autonegotiation | yes |
| Autosensing | yes |
| Autopolarity | yes |
| Full IEEE 802.3 compatibility | yes |
| Line, star and network topologies are possible | yes |
| Operating voltage | 9 ... 30 V DC |
| Redundant power supply | 2 infeeds |
| Diagnostic LEDs (power / link status / data / data rate) | yes / yes / yes / yes |
| Operating temperature | 0 ... +60 °C |
| Dimensions (mm) W x H x D | 45 x 91 x 80 |
| Housing | Aluminum extrusion |
| Mounting | DIN rail and screw mounting |
| Type of connectors | Screw terminal, pluggable |
| Connector size | up to 1.5 mm ² |
| Weight | 250 g |
| Degree of protection | IP 40 |
| Approvals | CE cULus FCC |

Ethernet Switches (Fast Ethernet)

wienet UMS 8



| Type | Part No. |
|--|--|
| wienet UMS 8 | 83.040.0001.0 |
| Technical Data | |
| Number of ports | 8 RJ45-Ports |
| Port types | 8 x Ethernet and Fast-Ethernet (10/100 Mbit/s) |
| Store and forward switching mode | yes |
| Autocrossing | yes |
| Autonegotiation | yes |
| Autosensing | yes |
| Autopolarity | yes |
| Full IEEE 802.3 compatibility | yes |
| Line, star and network topologies are possible | yes |
| Operating voltage | 9 ... 30 V DC |
| Redundant power supply | 2 infeeds |
| Diagnostic LEDs (power / link status / data / data rate) | yes / yes / yes / yes |
| Operating temperature | -10 ... +70 °C |
| Dimensions (mm) W x H x D | 45 x 91 x 80 |
| Housing | Aluminum extrusion |
| Mounting | DIN rail and screw mounting |
| Type of connectors | Screw terminal, pluggable |
| Connector size | up to 1.5 mm ² |
| Weight | 270 g |
| Degree of protection | IP 40 |
| Approvals | CE  FCC |



Ethernet Switches (Giga Ethernet)

wienet UMS 8-G



| Type | Part No. |
|--|--|
| wienet UMS 8-G | 83.040.0106.0 |
| Technical Data | |
| Number of ports | 8 x RJ45 |
| Port types | 6 x Giga-Ethernet (10/100/1000 Mbit/s) |
| Store and forward switching mode | yes |
| Autocrossing | yes |
| Autonegotiation | yes |
| Autosensing | yes |
| Autopolarity | yes |
| Full IEEE 802.3 compatibility | yes |
| Line, star and network topologies are possible | yes |
| Operating voltage | 9 ... 48 V DC |
| Redundant power supply | 2 infeeds |
| Diagnostic LEDs (power / link status / data / data rate) | yes / yes / yes / yes |
| Operating temperature | -10 ... +70 °C |
| Dimensions (mm) W x H x D | 45 x 90 x 90.5 |
| Housing | Metal |
| Mounting | DIN rail and screw mounting |
| Type of connectors | Screw terminal, pluggable |
| Connector size | 0.2 – 1.5 mm ² |
| Weight | 255 g |
| Degree of protection | IP 50 |
| Approvals | CE cULus FCC |


wienet UMS 8-2G



| Type | Part No. |
|--|--|
| wienet UMS 8-2G | 83.040.0103.0 |
| Technical Data | |
| Number of ports | 10 RJ45-Ports |
| Port types | 8 x Ethernet and Fast-Ethernet (10/100 Mbit/s) 2 x Giga-Ethernet (10/100/1000 Mbit/s) |
| Store and forward switching mode | yes |
| Autocrossing | yes |
| Autonegotiation | yes |
| Autosensing | yes |
| Autopolarity | yes |
| Full IEEE 802.3 compatibility | yes |
| Line, star and network topologies are possible | yes |
| Operating voltage | 12 ... 48 V DC |
| Redundant power supply | 2 infeeds |
| Diagnostic LEDs (power / link status / data / data rate) | yes / yes / yes / yes |
| Operating temperature | -40 ... +70 °C |
| Dimensions (mm) W x H x D | 53.4 x 145.7 x 119.9 |
| Housing | Aluminum extrusion |
| Mounting | DIN rail and screw mounting |
| Type of connectors | Screw terminal, pluggable |
| Connector size | up to 1.5 mm ² |
| Weight | 1000 g |
| Degree of protection | IP 40 |
| Approvals | CE cULus FCC |


Ethernet Switches (with optical ports)

wienet UMS 4-1FM



| Type | Part No. |
|--|---------------------------------------|
| wienet UMS 4-1FM | 83.040.0002.0 |
| Technical Data | |
| Number of ports | 4 x RJ45, 1 x ST (optical multi mode) |
| Port types | 10/100BaseT(X), 100BaseFX |
| Store and forward switching mode | yes |
| Autocrossing | yes |
| Autonegotiation | yes |
| Autosensing | yes |
| Autopolarity | yes |
| Full IEEE 802.3 compatibility | yes |
| Line, star and network topologies are possible | yes |
| Operating voltage | 9 ... 30 V DC |
| Redundant power supply | 2 infeeds |
| Diagnostic LEDs (power / link status / data / data rate) | yes / yes / yes / yes |
| Operating temperature | -10 ... +70 °C |
| Dimensions W x H x D | 45.3 x 90 x 90.5 |
| Housing | Metal |
| Mounting | DIN rail and screw mounting |
| Type of connectors | Screw terminal, pluggable |
| Connector size | 0.2 – 1.5 mm ² |
| Weight | 260 g |
| Degree of protection | IP 50 |
| Approvals | CE i@us FCC |

wienet UMS 4-1FS



| Type | Part No. |
|--|--|
| wienet UMS 4-1FS | 83.040.0003.0 |
| Technical Data | |
| Number of ports | 4 x RJ45, 1 x SC (optical single mode) |
| Port types | 10/100BaseT(X), 100BaseFX |
| Store and forward switching mode | yes |
| Autocrossing | yes |
| Autonegotiation | yes |
| Autosensing | yes |
| Autopolarity | yes |
| Full IEEE 802.3 compatibility | yes |
| Line, star and network topologies are possible | yes |
| Operating voltage | 9 ... 30 V DC |
| Redundant power supply | 2 infeeds |
| Diagnostic LEDs (power / link status / data / data rate) | yes / yes / yes / yes |
| Operating temperature | -10 ... +70 °C |
| Dimensions W x H x D | 45.3 x 90 x 90.5 |
| Housing | Metal |
| Mounting | DIN rail and screw mounting |
| Type of connectors | Screw terminal, pluggable |
| Connector size | 0.2 – 1.5 mm ² |
| Weight | 260 g |
| Degree of protection | IP 50 |
| Approvals | CE i@us FCC |





- Applications**
- Energy systems
 - Wind turbines
 - Solar farms
 - Biogas cogeneration systems
 - Heat pumps, ...
 - Water and waste water Management
 - System monitoring in machine building
 - Washing machines
 - Packaging machines
 - Compressors, ...
 - External surveillance camera
 - Vending
 - Telemetry online sales or ticket machines
 - Smart metering
 - Mobile Fleet Management



wienet VPN Industrial Router – unlimited M2M communication

Functionality which convinces

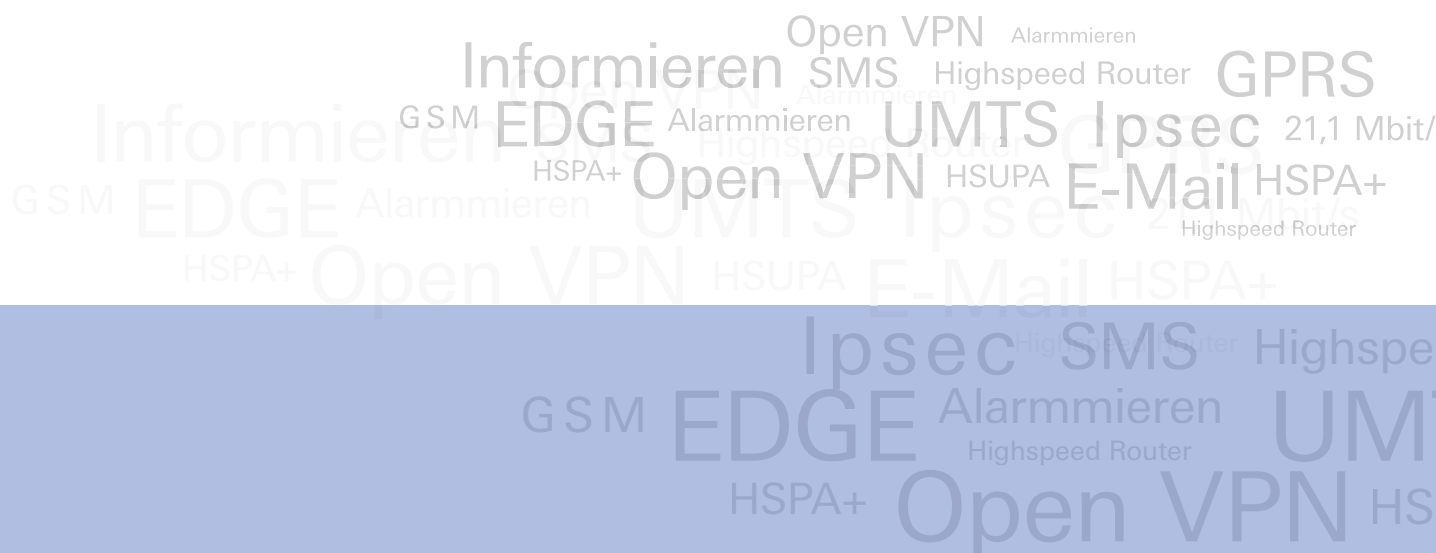
Whether it is about the control of machines, monitoring of production lines or the coordination of all production areas a permanent communication between devices is needed to complete such a complex task. Access to stored data using wireless networks is not always possible or safe. Now Wieland offers with its modern router technology the possibility of completing such complex tasks. For example control commands, level indicators or video signals can now be transmitted. At download speeds of up to 21.1 Mbit/s and upload speeds of up to 5.7 Mbits/s (depending on the network operator) the **wienet** VPN industrial router is sure to cover the available connectivity options of GPRS up to HSPA+. With automatic login **wienet** VPN industrial router will always access the fastest available connection.

Each router has its own IP address and can be configured through the integrated web interface.

It supports services such as DHCP, NAT and DynDNS. The routers communicate directly or via the control panel to open a secure VPN connection. The establishment of an IPSec encrypted tunnel is alternatively possible.

wienet VPN routers are ideal components for industrial use in conjunction with VPN-service portals, such as Wie-Service24.

With the arrangement of the ports on the front-panel and a standard USB port, the **wienet** VPN industrial router are extremely user friendly. A clear statistic of mobile connections is used for better control. Optionally, the device can be equipped with a second SIM card slot, additional I / Os, RS-232, RS-422/RS-485, M-Bus or a second Ethernet interface.



VPN Industrial Router

Mobile router **wienet ER75i V2 (SL)**

- Antenna enclosed



| Type | Part No. | Part No. |
|----------------------------------|---|---------------|
| wienet ER75i V2 | 83.041.0000.0 | |
| wienet ER75i V2 SL | | 83.041.0000.1 |
| Technical Data | | |
| Housing | Plastic | Aluminium |
| Dimensions (mm) W x H x D | 42 x 113 x 76 | 42 x 113 x 81 |
| Transmission | GPRS/EDGE | |
| Mounting | DIN-rail or table | |
| Operating voltage | 10 – 30 V DC | |
| Operating temperature | -30 ... +60 °C | |
| Interfaces | 1x Ethernet 10/100, USB 2.0 Type A (Host), IO | |
| Optional interfaces | RS232, RS422/485, M-Bus, I/O module, Ethernet | |
| SIM card slots | 1 (2nd is optional) | |
| Max. Download / Upload | 236 kbit/s / 118.4 kbit/s | |
| Approvals | CE | |
| Functions | | |
| VPN: IPSec/Open VPN | yes | |
| DHCP (Client/Server) | yes | |
| Web interface | yes | |
| FTP server | yes | |
| NAT/PAT | yes | |
| SNMP | yes | |
| VRRP | yes | |
| DynDNS | yes | |
| NTP | yes | |
| SSH | yes | |
| SMS, e-mail functions | yes | |
| Automatic updates | yes | |
| Preparation Wie-Service24 portal | yes | |

Mobile router **wienet UR5 V2 (SL)**

- Antenna enclosed



| Type | Part No. | Part No. |
|----------------------------------|---|---------------|
| wienet UR5 V2 | 83.041.0020.0 | |
| wienet UR5 V2 SL | | 83.041.0020.1 |
| Technical Data | | |
| Housing | Plastic | Aluminium |
| Dimensions (mm) W x H x D | 42 x 113 x 76 | 42 x 113 x 81 |
| Transmission | UMTS/HSDPA | |
| Mounting | DIN-rail or table | |
| Operating voltage | 10 – 30 V DC | |
| Operating temperature | -30 ... +60°C | |
| Interfaces | 1x Ethernet 10/100, USB 2.0 Type A (Host), IO | |
| Optional interfaces | RS232, RS422/485, M-Bus, I/O module, Ethernet | |
| SIM card slots | 1 (2nd is optional) | |
| Max. Download / Upload | 3.6 Mbit/s / 384 kbit/s | |
| Approvals | CE | |
| Functions | | |
| VPN: IPSec/Open VPN | yes | |
| DHCP (Client/Server) | yes | |
| Web interface | yes | |
| FTP server | yes | |
| NAT/PAT | yes | |
| SNMP | yes | |
| VRRP | yes | |
| DynDNS | yes | |
| NTP | yes | |
| SSH | yes | |
| SMS, e-mail functions | yes | |
| Automatic updates | yes | |
| Preparation Wie-Service24 portal | yes | |

Accessories

Omnidirectional rod antenna **wienet GXS606**



| Type | Part No. |
|-----------------------|------------------------------|
| wienet GXS606 | 83.041.0210.0 |
| Technical Data | |
| Frequency bandwidth | GSM, GPRS, EDGE, UMTS |
| Connector | FME/F |
| Gain | 2.2 dBi |
| Length of cable | 5 m |
| Dimensions | Length of rod approx. 300 mm |

VPN Industrial Router

Mobile router **wienet UR5i V2 (SL)**

- Antenna enclosed



| Type | Part No. | Part No. |
|----------------------------------|---|---------------|
| wienet UR5i V2 | 83.041.0040.0 | |
| wienet UR5i V2 SL | | 83.041.0040.1 |
| Technical Data | | |
| Housing | Plastic | Aluminium |
| Dimensions (mm) W x H x D | 42 x 113 x 76 | 42 x 113 x 81 |
| Transmission | UMTS/HSPA+ | |
| Mounting | DIN-rail or table | |
| Operating voltage | 10 – 30 V DC | |
| Operating temperature | -30 ... +60 °C | |
| Interfaces | 1x Ethernet 10/100, USB 2.0 Type A (Host), IO | |
| Optional interfaces | RS232, RS422/485, M-Bus, I/O module, Ethernet | |
| SIM card slots | 1 (2nd is optional) | |
| Max. Download / Upload | 21.1 Mbit/s / 5.7 Mbit/s | |
| Approvals | CE | |
| Functions | | |
| VPN: IPSec/Open VPN | yes | |
| DHCP (Client/Server) | yes | |
| Web interface | yes | |
| FTP server | yes | |
| NAT/PAT | yes | |
| SNMP | yes | |
| VRRP | yes | |
| DynDNS | yes | |
| NTP | yes | |
| SSH | yes | |
| SMS, e-mail functions | yes | |
| Automatic updates | yes | |
| Preparation Wie-Service24 portal | yes | |

LAN-to-LAN router **wienet XR5i V2 (SL) ETH**



| Type | Part No. | Part No. |
|----------------------------------|---|---------------|
| wienet XR5i V2 ETH | 83.041.0065.0 | |
| wienet XR5i V2 SL ETH | | 83.041.0065.1 |
| Technical Data | | |
| Housing | Plastic | Aluminium |
| Dimensions (mm) W x H x D | 42 x 113 x 76 | 42 x 113 x 81 |
| Transmission | LAN-to-LAN | |
| Mounting | DIN-rail or table | |
| Operating voltage | 10 – 30 V DC | |
| Operating temperature | -30 ... +60°C | |
| Interfaces | 2x Ethernet 10/100, USB 2.0 Type A (Host), IO | |
| Optional interfaces | RS232, RS422/485, M-Bus | |
| Max. Download / Upload | Ethernet 10/100 Mbit/s / 10/100 Mbit/s | |
| Approvals | CE | |
| Functions | | |
| VPN: IPSec/Open VPN | yes | |
| DHCP (Client/Server) | yes | |
| Web interface | yes | |
| FTP server | yes | |
| NAT/PAT | yes | |
| SNMP | yes | |
| VRRP | yes | |
| DynDNS | yes | |
| NTP | yes | |
| SSH | yes | |
| SMS, e-mail functions | yes | |
| Automatic updates | yes | |
| Preparation Wie-Service24 portal | yes | |

Accessories

Top flat antenna **wienet GXR623**



| Type | Part No. |
|-----------------------|-------------------------|
| wienet GXR623 | 83.041.0200.0 |
| Technical Data | |
| Frequency bandwidth | GSM, GPRS, EDGE, UMTS |
| Connector | FME/F |
| Gain | 2.2 dBi |
| Length of cable | 2.5 m |
| Dimensions | approx. 75 x 80 x 13 mm |

More security, more service, simply more Wie-Service24



A perfect team

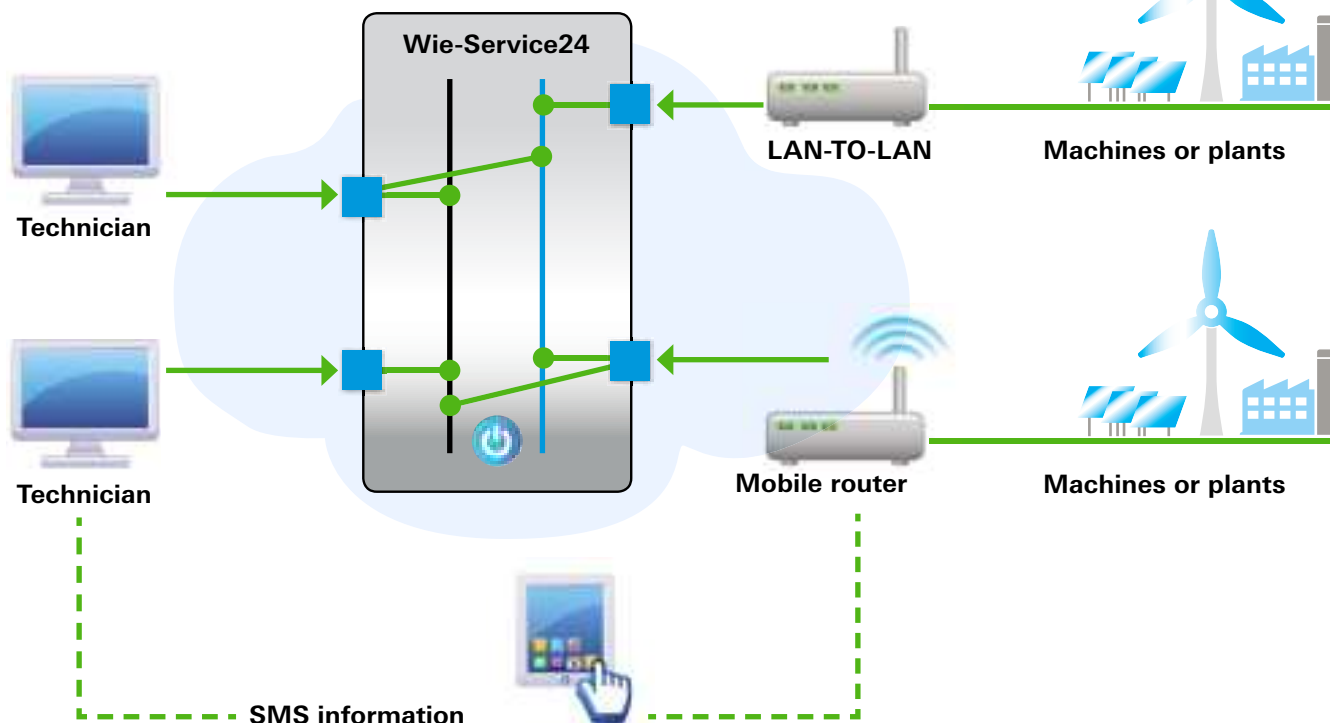
The Wie-Service24 portal is optimized for the Wieland mobile and LAN-to-LAN router. It automatically generates the configuration of the router and provides it for download. By this automatic setup possible failures will be minimized. Wie-Service24 generates and categorizes certificates for Wieland router. It regulates within a bigger group who is able to communicate with who. The combination of Wie-Service24 and the Wieland router enable a fast commissioning and a highly secure VPN connection.

Advantages

- Security by VPN
- Automatic generation of router configuration
- Only outgoing connections towards Wie-Service24 are necessary
- No changes inside the local network is necessary
- Interconnection of complete networks, without additional routing configuration
- Little coordination with IT department and easy commissioning

Wie-Service24 VPN Service Portal

All machines online!



The Wie-Service24 VPN service portal is available in different configurations:

Single access free for 2 month to the Wieland Server.
 Installation of the portal on a virtual machine, on an industrial PC,
 data center at customer site or a data center on an internet server.

| | Single access | Virtual machine | Industrial PC | Data center Server at Customer | Data center Internet server |
|------------------------|---|---------------------|---|--------------------------------|-----------------------------|
| Part-No. | ZD.000.0011.0 (Router) ZD.000.0011.1 (PC-Client) | ZD.000.0012.0 | ZD.000.0013.0 (Energy Saving) ZD.000.0014.0 (High Performance) | ZD.000.0015.0 | ZD.000.0016.0 |
| User access | • | • | • | • | • |
| Administrator access | – | • | • | • | • |
| Server hardware from | Wieland | Customer | Wieland | Customer | Provider |
| Internet connection by | Wieland | Customer | Customer | Customer | Provider |
| Installation by | Wieland | Customer or Wieland | Wieland | Wieland | Wieland |



More information is available from our technical support:

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 Telefax +49 951 9326-991
 wie-service24@wieland-electric.com



Coupling relays

The safe way to achieve a perfect interface in process applications.

In the microchip age of bits and bytes, one might assume that there is no place left for electro-mechanical relays. Far from it!

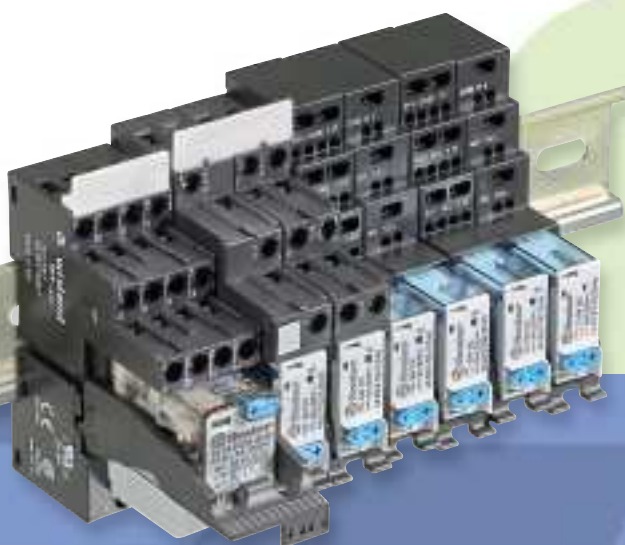
In control, transportation and production technology, coupling relays have been reliably accomplishing important tasks for years, and continue to do so.

Together with control systems, they offer numerous possibilities of making your application even safer and less sensitive to disturbances.









Advantages:

- Safe galvanic separation
- Pluggable and compact solutions
- Mounts directly onto a 35-mm DIN rail
- Optional gold-plated contacts
- Screw clamp and tension spring termination
- Display and EMI suppression modules
- Also suitable for railway applications acc. to EN 50155



Coupling relays

| | | | | | | | | |
|--|--|--|--------------------------|-----------|--------------------------------------|-----------|--|--|
| <p>flare MOVE</p> <ul style="list-style-type: none"> • Pluggable coupling relay • Overall width 6.2 mm • Screw terminals • 1 change-over contact 6A  | Description | | Part No. | Std. Pack | Part No. | Std. Pack | | |
| | flare MOVE | | AgSnO₂ | | AgSnO₂ + gold (5μ) | | | |
| | 12V Relay module DC | | 80.010.4501.0 | 10 | 80.010.4501.1 | 10 | | |
| | 12V Relay module AC/DC | | 80.010.4521.0 | 10 | 80.010.4521.1 | 10 | | |
| | 24V Relay module DC | | 80.010.4502.0 | 10 | 80.010.4502.1 | 10 | | |
| | 24V Relay module AC/DC spring clamp con. | | 80.010.4622.0 | 10 | | | | |
| | 24V Relay module AC/DC | | 80.010.4522.0 | 10 | 80.010.4522.1 | 10 | | |
| | 115V Relay module AC/DC | | 80.010.4525.0 | 10 | 80.010.4525.1 | 10 | | |
| | 230V Relay module AC/DC | | 80.010.4526.0 | 10 | 80.010.4526.1 | 10 | | |
| | Comb-shaped jumper 20pol. max 36A | | 80.063.4029.1 | 10 | | | | |
| | Marking plate BM SF38 | | 80.063.4129.3 | 1 | | | | |
| | Replacement relay and socket | | Information on request | | | | | |
| | Technical data | | | | | | | |
| | Maximum switching voltage | | 400 V AC | | | | | |
| | Maximum switching current | | 6 A AC/DC | | | | | |
| Maximum starting current | | 10 A | | | | | | |
| Mechanical life | | 1 x 10 ⁷ | | | | | | |
| Electrical life up to 230 V AC / 6A | | 6 x 10 ⁴ | | | | | | |
| Isolation voltage of input / output | | 4 kV eff | | | | | | |
| Connectable via pluggable jumper | | 20 modules | | | | | | |
| Wire range fine-stranded/solid | | 0.14 -1.5 / 0.5 - 2.5 mm ² | | | | | | |
| Degree of protection / Mounting rail | | IP 20 / TS35 | | | | | | |
| Dimensions (mm) W x H x D | | 6.2 x 88 x 76 | | | | | | |
| Ambient temperature | | 0 ... +50 °C | | | | | | |
| Approvals | | CE   | | | | | | |

| | | | | | | | | |
|---|---|--|---|---------------------|-------------------------------|-----------|--|--|
| <p>flare MOVE</p> <ul style="list-style-type: none"> • Pluggable coupling relay • Overall width 15.8 mm • Screw terminals • 1 change-over contact 16A • 2 change-over contacts 8A  | Description | | Part No. | Std. Pack | Part No. | Std. Pack | | |
| | flare MOVE | | 1 change-over contact | | 2 change-over contacts | | | |
| | 12V Relay module DC | | 80.010.4901.3 | 10 | 80.010.5501.2 | 10 | | |
| | 24V Relay module DC | | 80.010.4902.3 | 10 | 80.010.5102.2 | 10 | | |
| | 24V Relay module AC | | 80.010.4912.3 | 10 | | | | |
| | 115V Relay module AC | | 80.010.4915.3 | 10 | 80.010.5315.2 | 10 | | |
| | 230V Relay module AC | | 80.010.4916.3 | 10 | 80.010.5316.2 | 10 | | |
| | Comb-shaped jumper 8pol. for A1, A2 max 10A | | 80.063.5029.2 | 10 | | | | |
| | Marking tag BZ SF-48 | | 80.063.5029.3 | 10 | | | | |
| | Replacement relay | | Information on request | | | | | |
| | Technical data | | | | | | | |
| | Maximum switching voltage | | 400 V AC | | 250 V AC | | | |
| | Maximum switching current | | 16 A / (10 A up to 12 V) | | 8 A | | | |
| | Maximum starting current | | 30 A / (20 A up to 12 V) | | 15 A | | | |
| | Mechanical life DC / AC | | 2 x 10 ⁷ / 1 x 10 ⁷ | | 2 x 10 ⁷ | | | |
| Electrical life AC 1 | | 2 x 10 ⁵ / 1 x 10 ⁵ | | 1 x 10 ⁵ | | | | |
| Isolation voltage of input / output | | 4 kV | | | | | | |
| Connectable via pluggable jumper | | 8 modules | | | | | | |
| Wire range fine-stranded/solid | | 0.25 - 4 / 0.25 - 6 mm ² | | | | | | |
| Degree of protection / Mounting rail | | IP 20 / TS35 | | | | | | |
| Dimensions (mm) W x H x D | | 15.8 x 78.6 x 76 | | | | | | |
| Ambient temperature | | -40 ... +70 °C | | | | | | |
| Approvals | | CE   | | | | | | |



Coupling relays

flare MOVE MR

- Pluggable coupling relay
- Robust pins
- Switching position is indicated mechanically
- Lockable test button
- For railway application accord. to EN 50 155
- Overall width 15.8 mm
- Screw terminals
- 1 change-over contact 16A
- 2 change-over contacts 8A



| Description | Part No. | Std. Pack | Part No. | Std. Pack |
|--|-------------------------------------|-----------|-------------------------------|-----------|
| flare MOVE MR | 1 change-over contact | | 2 change-over contacts | |
| 24V Relay module DC | 80.010.6002.2 | 10 | 80.010.6032.2 | 10 |
| 24V Relay module DC with gold (5µm) | 80.010.6002.3 | 10 | 80.010.6032.3 | |
| Replacement relay | Information on request | | | |
| Comb-shaped jumper 8 pole for A1, A2 max 10A | 80.063.5029.2 | 10 | | |
| Marking plate BM MR-4C | 80.063.6029.3 | 10 | | |
| Technical data | | | | |
| Maximum switching voltage | 440 V AC | | 440 V AC | |
| Maximum switching current | 16 A | | 8 A | |
| Maximum starting current | 25 A | | 15 A | |
| Mechanical life | 1 x 10 ⁷ | | 1 x 10 ⁷ | |
| Electrical life AC 1 | 1 x 10 ⁵ | | 1 x 10 ⁵ | |
| Isolation voltage of input / output | 6 kV | | | |
| Wire range fine-stranded/solid | 0.25 - 4 / 0.25 - 6 mm ² | | | |
| Degree of protection / Mounting rail | IP 20 / TS35 | | | |
| Dimensions (mm) W x H x D | 15.8 x 82.9 x 68.1 | | | |
| Ambient temperature | -40...+70 °C (>12A max 50 °C) | | -40...+70 °C | |
| Approvals | CE TÜV US | | | |

flare MOVE MR


- Pluggable coupling relay
- Robust pins
- Switching position is indicated mechanically
- Lockable test button
- For railway application accord. to EN 50 155
- Overall width 15.8mm
- Cage clamp
- 1 change-over contact 16A
- 2 change-over contacts 8A



| Description | Part No. | Std. Pack | Part No. | Std. Pack |
|--------------------------------------|---------------------------------------|-----------|-------------------------------|-----------|
| flare MOVE MR | 1 change-over contact | | 2 change-over contacts | |
| 24V Relay module DC | 80.010.6102.2 | 10 | 80.010.6132.2 | 10 |
| 24V Relay module DC with gold (5µm) | 80.010.6102.3 | 10 | 80.010.6132.3 | |
| Replacement relay | Information on request | | | |
| Marking plate BM MR-4C | 80.063.6029.3 | 10 | | |
| Technical data | | | | |
| Maximum switching voltage | 400 V AC | | 400 V AC | |
| Maximum switching current | 16 A | | 8 A | |
| Maximum starting current | 25 A | | 15 A | |
| Mechanical life | 1 x 10 ⁷ | | 1 x 10 ⁷ | |
| Electrical life AC 1 | 1 x 10 ⁵ | | 1 x 10 ⁵ | |
| Isolation voltage of input / output | 6 kV | | | |
| Wire range fine-stranded/solid | 0.2 - 1.5 / 0.2 - 1.5 mm ² | | | |
| Degree of protection / Mounting rail | IP 20 / TS35 | | | |
| Dimensions (mm) W x H x D | 15.8 x 82.9 x 68.1 | | | |
| Ambient temperature | -25...+70 °C (>12A max 50 °C) | | -25...+70 °C | |
| Approvals | CE TÜV US | | | |

flare MOVE MR





- Pluggable coupling relay
- Robust pins
- Switching position is indicated mechanically
- Lockable test button
- For railway application accord. to EN 50 155
- Overall width 27 mm
- Screw terminals
- 4 change-over contacts 7A







| Description | Part No. | Std. Pack |
|--------------------------------------|-------------------------------------|-----------|
| flare MOVE MR | 4 change-over contact | |
| 24V Relay module DC | 80.010.5702.2 | 10 |
| Replacement relay | Information on request | |
| Technical data | | |
| Maximum switching voltage | 250 V AC | |
| Maximum switching current | 7 A | |
| Maximum starting current | 15 A | |
| Mechanical life | 2 x 10 ⁷ | |
| Electrical life AC 1 | 1.5 x 10 ⁵ | |
| Isolation voltage of input / output | 3.6 kV | |
| Wire range fine-stranded/solid | 0.25 - 4 / 0.25 - 6 mm ² | |
| Degree of protection / Mounting rail | IP 20 / TS35 | |
| Dimensions (mm) W x H x D | 27 x 76 x 86.9 | |
| Ambient temperature | -40...+70 °C | |
| Approvals | CE TÜV US | |



Coupling relays

| | | | | | | |
|--|--|-----------------------|---|-------------------|-----------|--|
| <p>flare</p> <ul style="list-style-type: none"> • Compact coupling relay • Overall width 6.2 mm • Screw terminals/ Cage clamp • 1 change-over contact 6 A  | Description | Part No. | Std. Pack | Part No. | Std. Pack | |
| | flare MOVE | Screw terminal | | Cage clamp | | |
| | 12V Relay module DC | | | 80.010.4106.0 | 10 | |
| | 24V Relay module DC | 80.010.4000.0 | 10 | 80.010.4100.0 | 10 | |
| | 115V Relay module AC | | | 80.010.4131.0 | 10 | |
| | 230V Relay module AC | | | 80.010.4141.0 | 10 | |
| | Pluggable jumper max 2A | Z8.000.0200.8 | 10 | | | |
| | Jumper for potential distribution red | Z8.000.0202.3 | 5 | | | |
| | Jumper for potential distribution blue | Z8.000.0202.4 | 5 | | | |
| | Endcaps for jumper, red | Z8.000.0202.1 | 20 | | | |
| | Endcaps for jumper, blue | Z8.000.0202.2 | 20 | | | |
| | 8 digit marking tag, unmarked, 60 pcs. | Z4.242.5153.0 | 10 | | | |
| | Technical data | | | | | |
| | Maximum switching voltage | 250 V AC / 300 V DC | | | | |
| | Maximum switching current | 6 A AC / 2 A DC | | | | |
| Maximum starting current | 10 A | | | | | |
| Mechanical life | 1 x 10 ⁷ | | | | | |
| Electrical life up to 230V AC / 6A | 8 x 10 ⁴ | | | | | |
| Isolation voltage of input / output | 4 kV _{eff} | | | | | |
| Connectable via pluggable jumper | 50 modules | | | | | |
| Wire range fine-stranded/solid | 0.5 - 2.5 / 0.25 - 4 mm ² | | 0.25 - 1.5 / 0.25 - 2.5 mm ² | | | |
| Degree of protection / Mounting rail | IP 20 / TS35 | | | | | |
| Dimensions (mm) W x H x D | 6.2 x 89 x 70 | | | | | |
| Ambient temperature | 0 ... +60 °C | | | | | |
| Approvals | CE    | | | | | |


| | | | | | | |
|---|--|-----------------------|---|-------------------|-----------|--|
| <p>flare</p> <ul style="list-style-type: none"> • Compact coupling relay • Overall width 6.2 mm / 12.4 (2 change-over contacts) • Screw terminals/ Cage clamp • Special Type  | Description | Part No. | Std. Pack | Part No. | Std. Pack | |
| | flare | Screw terminal | | Cage clamp | | |
| | 24V Relay module AC/DC | 80.010.4005.0 | 10 | 80.010.4105.0 | 10 | |
| | 1 change-over contact DC 48V 20mA with gold (3µm) | | | | | |
| | 24V Relay module DC | | | 80.010.4103.0 | 5 | |
| | 2 change-over contact AC 250V 6A AC/DC 300 V 2A DC | | | | | |
| | 24V Knife edge disconnect relay AC/DC | | | 80.010.4120.0 | 10 | |
| | 1 change-over contact AC 250V 6A / DC 300 V 2 A | | | | | |
| | 24V HAND-O-AUTO-Relay | | | 80.010.4101.0 | 10 | |
| | 1 normally open contact AC 250V 6A / DC 300V 2A | | | | | |
| | Technical data | | | | | |
| | Mechanical life | 2 x 10 ⁷ | | | | |
| | Electrical life up to 230V AC / 6A | 6 x 10 ⁴ | | | | |
| | Isolation voltage of input / output | 4 kV _{eff} | | | | |
| | Connectable via pluggable jumper | 50 modules | | | | |
| Wire range fine-stranded/solid | 0.5 - 2.5 / 0.25 - 4 mm ² | | 0.25 - 1.5 / 0.25 - 2.5 mm ² | | | |
| Degree of protection / Mounting rail | IP 20 / TS35 | | | | | |
| Dimensions (mm) W x H x D | 6.2 x 89 x 70 / 12.4 x 89 x 70 (2 change-over contacts) | | | | | |
| Ambient temperature | 0 ... +60 °C 6 mm ² | | | | | |
| Approvals | CE    | | | | | |



Coupling relays

Relay output modules

- Pluggable coupling relay
- Screw terminals
- 1 change-over contact / 2 change-over contacts
- 1 relay up to 16 relays
- 5 A switching capacity per output
- 12 V and 24 V




| Description | Part No. | Std. Pack | Part No. | Std. Pack |
|---|------------------------------|-----------|-------------------------------|-----------|
| Relay output modules | 1 change-over contact | | 2 change-over contacts | |
| 12V Module AC/DC 1 relay | 87.220.7553.0 | 10 | | |
| 24V Module DC 4 relay positive switching | 87.220.1853.0 | 1 | 87.220.4753.3 | 1 |
| 24V Module DC 4 relay negative switching | 87.221.5553.0 | 1 | | |
| 24V Module DC 8 relay positive switching | 87.220.1953.3 | 1 | 87.220.4853.3 | 1 |
| 24V Module DC 16 relay positive switching | 87.220.2253.3 | 1 | | |
| Replacement relay | Z8.000.0056.9 | 10 | Z8.000.0035.5 | 10 |

| Technical data | |
|-------------------------------------|--|
| Maximum switching voltage | 250 V AC/DC |
| Maximum switching current | 5 A AC/DC |
| Maximum starting current | 8 A AC/DC |
| Mechanical life | 3 x 10 ⁷ |
| Electrical life 230V AC / 5A | 6 x 10 ⁵ |
| Isolation voltage of input / output | 4 kV |
| Wire range fine-stranded/solid | 0.25 - 2.5 / 0.5 - 4 mm ² |
| Mounting rail | TS 35 / TS 32 |
| Dimensions (mm) W x H x D | 1 relay: 12.5 x 80 x 58.3 4/8/16 relay: 70/128/280 x 80 x 71 |
| Ambient temperature | -25 ... +50 °C (Derating) |
| Approvals | CE |

Relay output modules

- Pluggable coupling relay
- Screw terminals
- 1 change-over contact 4 A / 2 change-over contacts 5 A
- 1 relay up to 8 relays
- 115 V and 230 V AC/DC



| Description | Part No. | Std. Pack | Part No. | Std. Pack |
|-----------------------------|------------------------------|-----------|-------------------------------|-----------|
| Relay output modules | 1 change-over contact | | 2 change-over contacts | |
| 230 V Module AC/DC 1 relay | 80.010.0011.0 | 10 | 80.010.1100.0 | 5 |
| 115 V Module AC/DC 4 relay | 80.010.1102.0 | 1 | 80.010.1104.0 | 1 |
| 115 V Module AC/DC 8 relay | 80.010.1110.0 | 1 | 80.010.1112.0 | 1 |
| 230 V Module AC/DC 4 relay | 80.010.1106.0 | 1 | 80.010.1108.0 | 1 |
| 230 V Module AC/DC 8 relay | 80.010.1114.0 | 1 | 80.010.1116.0 | 1 |
| Replacement relay | Z8.000.0181.0 | 10 | Z8.000.0176.2 | 10 |


| Technical data | |
|---|---|
| Maximum switching voltage | 250 V AC/DC |
| Maximum switching current | 4 A AC/DC |
| Maximum starting current | 6 A AC/DC |
| Mechanical life | 3 x 10 ⁷ |
| Electrical life 230V AC/nominal current | 1.5 x 10 ⁶ |
| Isolation voltage of input / output | 4 kV |
| Wire range fine-stranded/solid | 0.25 - 2.5 / 0.5 - 4 mm ² |
| Mounting rail | TS 35 / TS 32 |
| Dimensions (mm) W x H x D | 1 relay: 12.5 x 80 x 70 4/8 relay: 70/128 x 80 x 71 |
| Ambient temperature | -40 ... +50 °C (Derating) |
| Approvals | CE |




Coupling relays

Relay system


- Bridgeable relay system
- Screw terminals
- 1 normally open contact/
1 change-over contact
- 24 V AC/DC




| Description | Part No. | Std. Pack | Part No. | Std. Pack |
|--|--|---------------|----------------------|--------------|
| Relay system | | Output | | Input |
| 24V Module AC/DC 1 normally open contact | 80.010.0005.0 | 10 | 80.010.0007.0 | 10 |
| 24V Module AC/DC 1 change-over contact | 80.010.0008.0 | 10 | 80.010.0009.0 | 10 |
| Pluggable jumper max. 0.5A | Z8.000.0103.4 | 10 | | |
| Technical data | | | | |
| Maximum switching voltage | 250 V AC/DC | | 48 V DC (10 µm gold) | |
| Maximum switching current | 5 A AC/DC | | 20 mA | |
| Maximum starting current | 8 A AC/DC | | | |
| Mechanical life | 3 x 10 ⁷ | | 3 x 10 ⁷ | |
| Electrical life (up to nominal rating) | 2.5 x 10 ⁵ | | 3 x 10 ⁶ | |
| Isolation voltage of input / output | 4 kV | | | |
| Wire range fine-stranded/solid | 0.5 - 2.5 / 0.5 - 4 mm ² | | | |
| Mounting rail | TS 35 / TS 32 | | | |
| Dimensions (mm) W x H x D | 12.5 x 80 x 60 | | | |
| Ambient temperature | -25 ... +50 °C (Derating up to 65 °C) | | | |
| Approvals | CE  | | | |

Relay system


- Bridgeable relay system
- Screw terminals
- 2 change-over contacts 5 A
- 24 V AC/DC




| Description | Part No. | Std. Pack | Part No. | Std. Pack |
|---|--|---------------|----------------------|--------------|
| Relay system | | Output | | Input |
| 24V Module AC/DC 2 change-over contacts | 80.010.1003.0 | 5 | 80.010.1002.0 | 5 |
| Pluggable jumper max. 0.5 A | Z8.000.0103.4 | 10 | | |
| Technical data | | | | |
| Maximum switching voltage | 250 V AC/DC | | 48 V DC (10 µm gold) | |
| Maximum switching current | 5 A AC/DC | | 20 mA | |
| Maximum starting current | 6 A AC/DC | | | |
| Mechanical life | 3 x 10 ⁷ | | 3 x 10 ⁷ | |
| Electrical life (up to nominal rating) | 2.5 x 10 ⁵ | | 3 x 10 ⁶ | |
| Isolation voltage of input / output | 4 kV | | | |
| Wire range fine-stranded/solid | 0.5 - 2.5 / 0.5 - 4 mm ² | | | |
| Mounting rail | TS 35 / TS 32 | | | |
| Dimensions (mm) W x H x D | 22.5 x 80 x 60 | | | |
| Ambient temperature | -25 ... +50 °C | | | |
| Approvals | CE  | | | |

Relay system

- Bridgeable relay system
- Screw terminals
- 1 change-over contact 16 A
- 24 V AC/DC




| Description | Part No. | Std. Pack |
|---|--|---------------|
| Relay system | | Output |
| 24 V Module AC/DC 1 change-over contact | 80.010.0010.0 | 5 |
| Pluggable jumper max. 0.5 A | Z8.000.0103.4 | 10 |
| Technical data | | |
| Maximum switching voltage | 250 V AC/DC | |
| Maximum switching current | 16 A AC/DC | |
| Maximum starting current | 16 A AC/DC | |
| Mechanical life | 3 x 10 ⁷ | |
| Electrical life (up to nominal rating) | 1.8 x 10 ⁵ | |
| Isolation voltage of input / output | 4 kV | |
| Wire range fine-stranded/solid | 0.5 - 2.5 / 0.5 - 4 mm ² | |
| Mounting rail | TS 35 / TS 32 | |
| Dimensions (mm) W x H x D | 22.5 x 80 x 60 | |
| Ambient temperature | -25 ... +50 °C (Derating up to 65 °C) | |
| Approvals | CE  | |






Solid-State relays

flare

- Compact solid-state relay
- Overall width 6.2 mm
- Spring cage clamp
- Output 48 V DC




| Description | Part No. | Std. Pack | Part No. | Std. Pack |
|--|---------------------|-----------|-------------------|-----------|
| flare | Output 0,5 A | | Output 2 A | |
| 24 V Module DC / Output 48 V | 80.020.4100.0 | 10 | 80.020.4101.0 | 10 |
| 115 V Module AC/DC / Output 48 V | 80.020.4102.0 | 10 | | |
| 230 V Module AC/DC / Output 48 V | 80.020.4103.0 | 10 | | |
| Pluggable jumper max 2 A | Z8.000.0200.8 | 10 | | |
| 8 digit marking tag, unmarked, 60 pcs. | Z4.242.5153.0 | 10 | | |




| Technical data | |
|--------------------------------------|--|
| Maximum switching voltage | 48 V DC (4,4...53 V DC) |
| Maximum switching current | 0,5 A |
| Min. switching current | 0,1 mA |
| Isolation voltage of input / output | 3,75 kV |
| Connectable via pluggable jumper | 50 modules |
| Wire range fine-stranded/solid | 0,25 -1,5 / 0,25 - 2,5 mm ² |
| Degree of protection / Mounting rail | IP 20 / TS35 |
| Dimensions (mm) W x H x D | 6,2 x 89 x 70 |
| Ambient temperature | 0 ... +50 °C (Derating) |
| Approvals | CE    |

flare

- Compact solid-state relay
- Overall width 6.2 mm
- Spring cage clamp
- Output 230 V AC




| Description | Part No. | Std. Pack |
|--|---------------------|-----------|
| flare | Output 0,5 A | |
| 24V Module DC / Output 230 V AC | 80.020.4150.0 | 10 |
| Pluggable jumper max 2 A | Z8.000.0200.8 | 10 |
| 8 digit marking tag, unmarked, 60 pcs. | Z4.242.5153.0 | 10 |



| Technical data | |
|--------------------------------------|--|
| Maximum switching voltage | 250 V AC |
| Maximum switching current | 0,5 A |
| Min. switching current | 0,1 mA |
| Isolation voltage of input / output | 2,5 kV |
| Connectable via pluggable jumper | 50 modules |
| Wire range fine-stranded/solid | 0,25 -1,5 / 0,25 - 2,5 mm ² |
| Degree of protection / Mounting rail | IP 20 / TS35 |
| Dimensions (mm) W x H x D | 6,2 x 89 x 70 |
| Ambient temperature | 0 ... +50 °C (Derating) |
| Approvals | CE    |

Solid-state relay

- Bridgeable
- Screw terminals
- Output 60 V DC




| Description | Part No. | Std. Pack | Part No. | Std. Pack |
|------------------------------|-------------------|-----------|-------------------|-----------|
| Solid-State-Relay | Output 3 A | | Output 5 A | |
| 24 V Module DC / Output 48 V | 80.020.2003.0 | 10 | 80.020.2004.0 | 10 |
| Pluggable jumper | Z8.000.0103.4 | 10 | | |



| Technical data | |
|-------------------------------------|--|
| Maximum switching voltage | 60 V DC (3...60 V) |
| Maximum switching current | 3 A DC (Derating) |
| Min. switching current | 20 mA |
| Isolation voltage of input / output | 4 kV |
| Connectable via pluggable jumper | 20 modules |
| Wire range fine-stranded/solid | 0,5 -2,5 / 0,5 - 4 mm ² |
| Mounting rail | TS 35 / TS 32 |
| Dimensions (mm) W x H x D | 12,5 x 80 x 64 |
| Ambient temperature | -20 ... +50 °C (Derating) |
| Approvals | CE   |

Solid-state relay

- Bridgeable
- Screw terminals
- Output 250 V AC



| Description | Part No. | Std. Pack | Part No. | Std. Pack |
|----------------------------------|-------------------|-----------|-------------------|-----------|
| Solid-State-Relay | Output 4 A | | Output 6 A | |
| 24 V Module DC / Output 250 V AC | 80.020.2001.0 | 10 | 80.020.0004.0 | 10 |
| Pluggable jumper | Z8.000.0103.4 | 10 | | |

| Technical data | |
|-------------------------------------|--|
| Maximum switching voltage | 280 V AC (48...280 V) |
| Maximum switching current | 4 A |
| Min. switching current | 60 mA |
| Isolation voltage of input / output | 4 kV |
| Connectable via pluggable jumper | 20 modules |
| Wire range fine-stranded/solid | 0,5 -2,5 / 0,5 - 4 mm ² |
| Mounting rail | TS 35 / TS 32 |
| Dimensions (mm) W x H x D | 12,5 x 80 x 56 |
| Ambient temperature | -25 ... +50 °C (Derating) |
| Approvals | CE   |





Multi-functional Analogue Isolation Amplifier

flexible and precise

Analogue isolation amplifier of the **cores** series

The **cores** series convinces with flexible use in process and industrial automation.

They ensure a defined separation of measurement and process signals from the control system. And it protects against voltage drops.

Analogue isolation amplifiers also convert signals into standardized signal levels.

cores combines a highly precise signal conversion with a very small housing and fulfils actual demands for such products.

The Advantages:

- Digital conversion (up to 16 Bit)
- Highest accuracy (0.1 %) and linearity
- Fastest reaction time (from 11 ms)
- 3 or 4 way galvanic isolation
- High isolation voltage
- Compact housing (also as thin as 6.2 mm)
- Universal functions settable
- Wide temperature range



Analogue Isolation Amplifier

cores C1 UI-B

- Analogue Isolation Amplifier
- 3 way isolation
- Input: voltage / current, output: voltage / current
- High accuracy by digital conversion
- Width 6.2 mm
- Spring clamp connection
- Wide temperature range



| Type | Part No. |
|--------------------------------------|--|
| cores C1 UI-B | 82.003.0110.0 |
| Technical data | |
| Input range (adjustable) | 0/1 ... 5 V DC or 0/2 ... 10 V DC 0/4 ... 20 mA DC |
| Output range (adjustable) | 0/1 ... 5 V DC or 0/2 ... 10 V DC 0/4 ... 20 mA DC or 20 ... 4/0 mA DC activ or passiv |
| Galvanic isolation | yes, 3 way isolation |
| Isolation voltage | 1500 V AC |
| Accuracy | <0.1%, 14 Bit resolution |
| Supply voltage range | 19.2 ... 30 V DC |
| Power consumption | max. 500 mW |
| Connection type | Spring clamp |
| Wire range solid/fine-stranded | 0.2 - 2.5 mm ² |
| Degree of protection / Mounting rail | IP 20 / TH 35 (EN60715) |
| Dimensions (mm) W x H x D | 6.2 x 93.1 x 102.5 |
| Temperature range | -20 ... +65 °C |
| Approvals | CE |

cores C1 PT-B

- Analogue Isolation Amplifier
- 3 way isolation
- Input: PT 100, output: voltage / current
- High accuracy by digital conversion
- Width 6.2 mm
- Spring clamp connection
- Wide temperature range



| Type | Part No. |
|--------------------------------------|---|
| cores C1 PT-B | 82.003.0120.0 |
| Technical data | |
| Input range (adjustable) | PT100 with 2-, 3- or 4 wire connection -150 ... +650 °C |
| Output range (adjustable) | 0/1 ... 5 V DC or 0 ... 10 V; 10 ... 0 V DC 0/4 ... 20 mA DC or 20 ... 4/0 mA DC |
| Galvanic isolation | yes, 3 way isolation |
| Isolation voltage | 1500 V AC |
| Accuracy | <0.1%, 14 Bit resolution |
| Supply voltage range | 19.2 ... 30 V DC |
| Power consumption | max. 500 mW |
| Connection type | Spring clamp |
| Wire range solid/fine-stranded | 0.2 - 2.5 mm ² |
| Degree of protection / Mounting rail | IP 20 / TH 35 (EN60715) |
| Dimensions (mm) W x H x D | 6.2 x 93.1 x 102.5 |
| Temperature range | -20 ... +65 °C |
| Approvals | CE |

cores C1 TC-B

- Analogue Isolation Amplifier
- 3 way isolation
- Input: thermo coupler, output: voltage / current
- High accuracy by digital conversion
- Width 6.2 mm
- Spring clamp connection
- Wide temperature range



| Type | Part No. |
|--------------------------------------|---|
| cores C1 TC-B | 82.003.0130.0 |
| Technical data | |
| Input range (adjustable) | Types of thermo coupler: J, K, E, N, S, R, B, T |
| Output range (adjustable) | 0/1 ... 5 V DC oder 0 ... 10 V DC 0/4 ... 20 mA DC oder 20 ... 4/0 mA DC |
| Galvanic isolation | yes, 3 way isolation |
| Isolation voltage | 1500 V AC |
| Accuracy | <0.1%, 14 Bit resolution |
| Supply voltage range | 19.2 ... 30 V DC |
| Power consumption | max. 500 mW |
| Connection type | Spring clamp |
| Wire range solid/fine-stranded | 0.2 - 2.5 mm ² |
| Degree of protection / Mounting rail | IP 20 / TH 35 (EN60715) |
| Dimensions (mm) W x H x D | 6.2 x 93.1 x 102.5 |
| Temperature range | -20 ... +65 °C |
| Approvals | CE |

Analogue Isolation Amplifier

cores C2 UI-A

- Analogue Isolation Amplifier
- 3 way isolation
- Input: current, output: current
- High accuracy by digital conversion
- Width 17.5 mm
- Screw clamp pluggable
- Wide temperature range



| Type | Part No. |
|--------------------------------------|----------------------------------|
| cores C2 UI-A | 82.003.0210.0 |
| Technical data | |
| Input range (adjustable) | 0 ... 20 mA DC active or passive |
| Output range (adjustable) | 0 ... 20 mA DC active or passive |
| Galvanic isolation | yes, 3 way isolation |
| Isolation voltage | 1500 V AC |
| Accuracy | <0.1% |
| Reaction time | <40 ms |
| Supply voltage range | 9 ... 40 V DC, 19 ... 28 V AC |
| Power consumption | max. 2.5 W |
| Connection type | Screw clamp pluggable |
| Wire range solid/fine-stranded | 0.14 - 2.5 mm ² |
| Degree of protection / Mounting rail | IP 20 / TH 35 (EN60715) |
| Dimensions (mm) W x H x D | 17.5 x 100 x 112 |
| Temperature range | -20 ... +60 °C |
| Approvals | CE |

cores C2 M-A

- Analogue Isolation Amplifier
- 3 way isolation
- Input: voltage, current, thermo coupler, potentiometer, output: voltage, current
- High accuracy by digital conversion
- Width 17.5 mm
- Screw clamp pluggable
- Wide temperature range



| Type | Part No. |
|--------------------------------------|--|
| cores C2 M-A | 82.003.0200.0 |
| Technical data | |
| Input range (adjustable) | 75 mV ... 20 V in 9 ranges (bipolar) 0 ... 20 mA (bipolar) J,K,R,S,T,B,E,N Thermo coupler Pt100, Pt500, Pt1000, Ni100. 3 or 4 wire 500 Ohm ... 10 kOhm Potentiometer 500 Ohm ... 25 kOhm Rheostat |
| Output range (adjustable) | 0 ... 20 mA oder 4 ... 20 mA 0... 5V oder 0 ... 10V oder 1 ... 5V oder 2 ... 10V |
| Galvanic isolation | yes, 3 way isolation |
| Isolation voltage | 1500 V AC |
| Accuracy | <0.1%, 12 or 16 Bit resolution |
| Reaction time | <35 ms (at 12 Bit) and <140 ms (at 16 Bit) |
| Supply voltage range | 10 ... 40 V DC, 19 ... 28 V AC |
| Power consumption | max. 2.5 W |
| Connection type | Screw clamp pluggable |
| Wire range solid/fine-stranded | 0.14 - 2.5 mm ² |
| Degree of protection / Mounting rail | IP 20 / TH 35 (EN60715) |
| Dimensions (mm) W x H x D | 17.5 x 100 x 112 |
| Temperature range | -10 ... +60 °C |
| Approvals | CE |

cores C2 M2-A

- Analogue Isolation Amplifier
- 4 way isolation
- 2 analogue outputs
- Input: voltage, current, thermo coupler, potentiometer, output: voltage, current
- High accuracy by digital conversion
- Width 17.5 mm
- Screw clamp pluggable
- Wide temperature range



| Type | Part No. |
|--------------------------------------|--|
| cores C2 M2-A | 82.003.0250.0 |
| Technical data | |
| Input range (adjustable) | 0 ... +10V 0 ... 20mA active or passive J, K, R, S, T, B, E, N Thermo coupler Pt100, Pt500, Pt1000, Ni100. 2, 3, 4 wire 1 ... 100 kOhm Potentiometer 500 Ohm ... 25 kOhm Rheostat |
| Output range (adjustable) | 0 ... 20 mA or 4 ... 20 mA active or passive 0 ... +10 V |
| Galvanic isolation | yes, 4 way isolation |
| Isolation voltage | 1500 V AC |
| Accuracy | <0.1%, 14 Bit resolution |
| Reaction time | <11 ms |
| Supply voltage range | 10 ... 40 V DC, 19 ... 28 V AC |
| Power consumption | max. 2 W |
| Connection type | Screw clamp pluggable |
| Wire range solid/fine-stranded | 0.14 - 2.5 mm ² |
| Degree of protection / Mounting rail | IP 20 / TH 35 (EN60715) |
| Dimensions (mm) W x H x D | 17.5 x 100 x 112 |
| Temperature range | -10 ... +65 °C |
| Approvals | CE |



Timers

Always up to the minute

The electronic relays are ideally suited for standard, monitoring and control tasks in order to control function processes down to the second. Depending on the application, multiple-voltage and multi-functional relays are available.

Decades of timer know-how are packed into a completely new, highly miniaturized generation of timers just 22.5 mm wide. Although the end of the timer has been being predicted for years now, as the PLC has spread, high quality timers with well thought-out designs and universal application will continue to be needed in industrial automation.



Timers remain crucial – in less complex series machines, in later modifications, everywhere where other solutions would result in unnecessary engineering and hardware costs. For these applications Wieland offers a range of timers that provides everything you need. These devices unite diverse features with an efficiency that permits the fullest profitability – from procurement and warehousing through application and operation, and finally to disposal.



Variable input voltage

The activation of the excitation input B1 can be done with any voltage levels from AC/DC 16.8 V to 264 V.

Remote Control (optional)

Connecting an optional remote potentiometer means that a number of devices can be time-setting enabled over large distances without requiring access to the control cabinet. Operation without a remote potentiometer does not require a bridge at the relay.

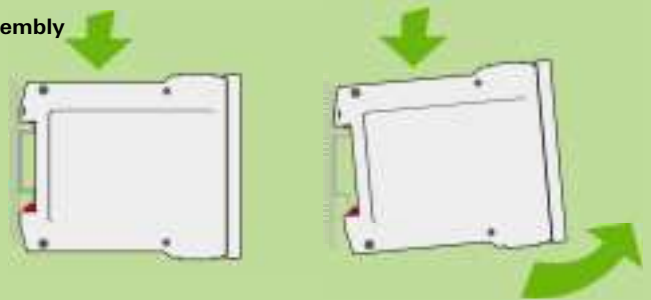


Assembly



1. Hook the housing onto the DIN rail
2. Snap the housing onto the DIN rail by gently pressing it in the direction of the arrow

Disassembly



1. Press down the housing in the direction of the arrow
2. Release the housing from its latched position by holding it down and moving it in the direction of the arrow, and remove it from the DIN rail

Multiple-voltage ergonomic and mobile

NLC series of timer relays

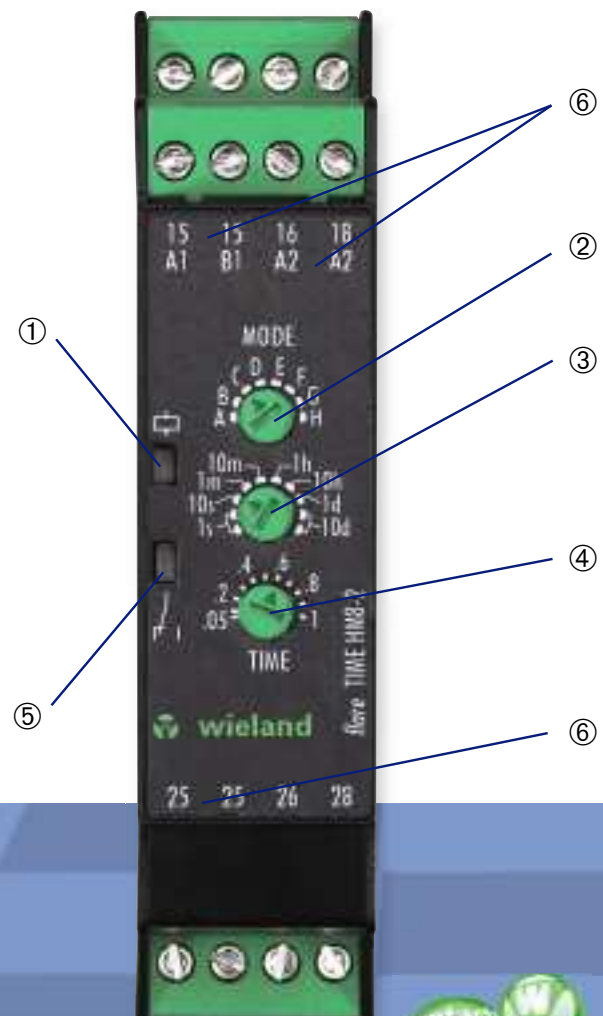
Our NLC family features universal application in the industrial automation sector. Up to 8 functions in just one relay cover all of your requirements and reduce inventory costs as well. Existing production processes can be easily expanded thanks to our NLC timer relay series, without incurring additional engineering and hardware costs. Our timer relays can be used in bakery machines, industrial washing machines, elevators and escalators, access controls and much more.

Features:

- Ambient temperatures from -25 °C to +60 °C
- Very high interference voltage resistance
- Output relays correspond to utilization category AC-15 and DC

The advantages:

- ① Power LED with progress display
- ② Function setting
- ③ Time range setting
- ④ Clear time setting
- ⑤ LED as status indicator of the change-over contact
- ⑥ Double connection points internally connected (HM series)





**Electronic timer and switching relays
for DIN rails**



**Electromechanical timer and switching
relays for DIN rails**



**Electronic timer and switching relays
for panel mounting**



**Electromechanical timer and switching
relays for panel mounting**

! Further products and technical details can be found at www.wieland-electric.com in our e-catalog.



Electronic timer and switching relays for DIN rails Multifunction

| Description | | flare TIME HM8-2-A | flare TIME HM8-2P-A | flare TIME HM5-1-A | flare TIME M8-2 | flare TIME M8-1 | flare TIME M4-2 | flare TIME M4-1 | flare TIME-S | NLC 71 | NLC 72 | NLC 72-S | NLC 91 | NLC 92 | NLC 92-S | NGM 1600 | NGM 1004 | NGMP 1001 | |
|--------------------|---|-----------------------|------------------------|-----------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|--|
| Part no. | | 81.020.0104.0 | 81.020.0134.0 | 81.020.0100.0 | 81.020.0003.0 | 81.020.0002.0 | 81.020.0001.0 | 81.020.0000.0 | 81.020.4100.0 | R2.068.0010.0 | R2.068.0020.0 | R2.068.0030.0 | R2.068.0040.0 | R2.068.0050.0 | R2.068.0060.0 | R2.065.0040.0 | R2.065.0030.0 | R2.065.0050.0 | |
| Model | Multi-function | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | |
| | Multi-range | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | |
| Function | | | | | | | | | | | | | | | | | | | |
| Timer relays | ON-delay | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | |
| | OFF-delay | • | • | | • | • | | | • | | | | • | • | • | • | • | • | |
| | ON-delay- and OFF-delay, symmetrical | • | • | | • | • | | | | | | | • | • | • | • | | | |
| Interval ON relay | Interval ON | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | |
| | Interval OFF | | | | | | | | | | | | | | | • | • | | |
| | Interval ON and Interval OFF | • | • | | • | • | | | | | | | • | • | • | • | • | • | |
| Repeat cycle timer | OFF start, symmetrical and selectable | • | • | • | • | • | | | • | • | • | • | • | • | • | | | | |
| | ON start, symmetrical and selectable | • | • | • | • | • | • | • | • | • | • | • | • | • | • | | | | |
| | ON start, symmetrical and fixed | | | | | | | | | | | | | | | | • | • | |
| | OFF start and ON start, symmetrical and fixed, cycle time setting range | | | | | | | | | | | | | | | • | | | |
| Star-delta relay | Switch-over relay, Interval ON | | | | | | | | | | | | | | | • | | | |
| Pulse relay | Pulse relay, ON-delay, Pulse output | • | • | • | • | • | • | • | | • | • | • | • | • | • | • | • | • | |
| | Pulse relay, OFF start, OFF start selectable, ON time fixed | | | | | | | | | | | | | | | | • | • | |
| | Pulse relay, alternating, OFF or ON time selectable | | | | | | | | | | | | | | | • | | | |
| | One shot (interval ON) | | | | | | | | | | | | | | | • | • | • | |
| Contacts | Timed change-over contact | 2 | 2 | 1 | 2 ² | 1 | 2 ² | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 2 ¹ | 1 | 1 | |
| | Instantaneous change-over contact | | | | 1 ² | | 1 ² | | | | | 1 | | | 1 | 1 ¹ | | | |
| Rated Voltage | Multi-voltage AC/DC 24 to 230 (240) V | • | • | • | • | • | • | • | | • | • | • | • | • | • | • | • | • | |
| Special Features | Remote potentiometer connection | | • | | | | | | | | | | | | | | | • | |
| | Double connection points (internally connected) for trough cabling | • | • | • | | | | | | | | | | | | | | | |
| | Digital (D) or analog (A) settings | A | A | A | A | A | A | A | | A | A | A | A | A | A | A | A | A | |
| Housing | Surface mounting | • | • | • | • | • | • | • | | • | • | • | • | • | • | • | • | • | |
| | 22.5 mm | | | | | | | | | | | | | | | | | | |

¹ = 1 timed and 1 instantaneous change-over contact, or 2 timed change-over contacts, depending on the function
² = 1 timed and 1 instantaneous change-over contact or 2 2 timed change-over contacts, selectable



Electronic timer and switching relays for DIN rails

flare TIME M

- Multi-function timer
- Multi-range time
- Wide input voltage range 20.4 ... 264 V AC/DC
- 4 or 8 selectable time functions
- 1 or 2 change-over contacts 5 A



| Type | Part No. |
|---|---------------|
| flare TIME M4-1 (4 time ranges / 1 contacts) | 81.020.0000.0 |
| flare TIME M4-2 (4 time ranges / 2 contacts) | 81.020.0001.0 |
| flare TIME M8-1 (8 time ranges / 1 contacts) | 81.020.0002.0 |
| flare TIME M8-2 (8 time ranges / 2 contacts) | 81.020.0003.0 |

| Technical data | |
|--------------------------------------|----------------------------|
| Input voltage range | 20,4 ... 264 V AC/DC |
| Time range | 0.1 s ... 1200 h |
| Time functions | 4 or 8 |
| Number of change-over contacts | 1 or 2 |
| Maximum switching current | 5 A |
| Mechanical life time | 10 x 10 ⁶ |
| Electrical life time AC1 | 0.1 x 10 ⁶ |
| Isolation voltage of input/output | 2 kV |
| Connection clamps | Screw clamp |
| Wire range fine-stranded/solid | 0.14 - 2.5 mm ² |
| Degree of protection / mounting rail | IP 20 / TH 35 (EN60715) |
| Dimensions (mm) W x H x D | 22.5 x 89.4 x 100 |
| Operation temperature range | -20 ... +55 °C |
| Approvals | CE |

flare TIME HM

- Multi-function timer
- Multi-range time
- Wide input voltage range 20.4 ... 264 V AC/DC
- 5 or 8 selectable time functions
- Pluggable clamps
- Wide temperature range
- 1 or 2 change-over contacts 5 A



| Type | Part No. |
|---|---------------|
| flare TIME HM5-1-A (5 time ranges / 1 contacts) | 81.020.0100.0 |
| flare TIME HM8-2-A (8 time ranges / 2 contacts) | 81.020.0104.0 |
| flare TIME HM8-2P-A (with remote control connection) | 81.020.0134.0 |

| Technical data | |
|--------------------------------------|---|
| Input voltage range | 20,4 ... 264 V AC/DC |
| Time range | 0.05 s ... 240 h |
| Time functions | 5 or 8 |
| Number of change-over contacts | 1 or 2 |
| Maximum switching current | 5 A |
| Mechanical life time | 20 x 10 ⁶ |
| Electrical life time AC1 | 0.1 x 10 ⁶ |
| Isolation voltage of input/output | 2 kV |
| Connection clamps | Pluggable screw clamp |
| Wire range fine-stranded/solid | 0.14 - 1.5 mm ² / 0.14 - 2.5 mm ² |
| Degree of protection / mounting rail | IP 20 / TH 35 (EN60715) |
| Dimensions (mm) W x H x D | 22.5 x 96.5 x 81.5 |
| Operation temperature range | -25 ... +60 °C |
| Approvals | CE |

flare TIME TWIN-1

- Mehrbereich-Taktgeber
- Multi-range time
- ON- or OFF-start settable
- Time ON and OFF separate adjustable
- Wide input voltage range 20.4 ... 264 V AC/DC
- 1 change-over contacts 5 A



| Type | Part No. |
|--------------------------|---------------|
| flare TIME TWIN-1 | 81.020.0011.0 |

| Technical data | |
|--------------------------------------|----------------------------|
| Input voltage range | 20,4 ... 264 V AC/DC |
| Time range | 0.1 s ... 1200 h |
| Time functions | ON- or OFF-start |
| Number of change-over contacts | 1 |
| Maximum switching current | 5 A |
| Mechanical life time | 10 x 10 ⁶ |
| Electrical life time AC1 | 0.1 x 10 ⁶ |
| Isolation voltage of input/output | 2 kV |
| Connection clamps | Screw clamp |
| Wire range fine-stranded/solid | 0.14 - 2.5 mm ² |
| Degree of protection / mounting rail | IP 20 / TH 35 (EN60715) |
| Dimensions (mm) W x H x D | 22.5 x 89.4 x 100 |
| Operation temperature range | -20 ... +55 °C |
| Approvals | CE |

Electronic timer and switching relays for DIN rails

flare TIME OFF-1

- OFF delayed timer
- No auxiliary voltage necessary
- 2 time ranges settable
- 1 change-over contacts 5 A



| Type | Part No. |
|--------------------------------------|----------------------------|
| flare TIME OFF-1 | 81.020.0010.0 |
| Technical data | |
| Input voltage range | 170 ... 264 V AC |
| Time range | 1 ... 120 s |
| Time functions | OFF delay |
| Number of change-over contacts | 1 |
| Maximum switching current | 5 A |
| Mechanical life time | 10 x 10 ⁶ |
| Electrical life time AC1 | 0.1 x 10 ⁶ |
| Isolation voltage of input/output | 2 kV |
| Connection clamps | Screw clamp |
| Wire range fine-stranded/solid | 0.14 - 2.5 mm ² |
| Degree of protection / Mounting rail | IP 20 / TH 35 (EN60715) |
| Dimensions (mm) W x H x D | 22.5 x 89.4 x 100 |
| Operation temperature range | -20 ... +55 °C |
| Approvals | CE |



The below listed electronic timers are still available.

Detailed information can be found in our e-catalogue at <http://eshop.wieland-electric.com>

Type at search the product family name, e.g. NGZ11 (without blank)



| Product family | Description |
|---|--|
| KID 31 K | Digital pre-set pulse counter |
| KPT 11 KD / KPT 31 KD | Multi-range repeat cycle timer |
| KSP 12 | Electronic trigger action relay |
| KSY 51 | Interval ON and/or OFF fixed timer relay |
| KZD 31 K | ON-delay single-range timer relay with digital time setting |
| KZL 71 / KZL 72 / KZL 91 / KZL 92 | Multi-function and multi-range timer relay |
| NLC 71 / NLC 72 / NLC 72-S / NLC 11 / NLC 92 / NLC 92-S | Multi-function and multi-range timer relay |
| KZT 510 K | ON-delay and OFF-delay multi-range timer relay |
| KZTH 11 | ON-delay single-range timer relay with semiconductor output (two-wire) |
| NGB 11 / NGB 12 | Fixed time flasher relay |
| NGD 31 | Interval ON star-delta relay |
| NGF 32 | Stepping relay with auxiliary supply |
| NGF 52 | Stepping relay with auxiliary supply |
| NGM 1001 / NGM 1002 / NGM 1003 / NGM 1004 / NGM 1600 | Multi-function and multi-range timer relay |
| NGW 11 | Signal watchdog relay |
| NGY 11 / NGY 52 | Interval ON fixed timer relay |
| NGY 71 / NGYP 72 | Interval ON multi-range relay |
| NGZ 11 / NGZ 12 / NGZ 12-S | ON-delay single-range timer relay |
| NGZ 310 / NGZ 320 | OFF-delay single-range timer relay with auxiliary supply |
| NGZ 71 / NGZ 72 / NGZ 72-S | ON-delay multi-range timer relay |
| NGZ 710 / NGZ 720 | OFF-delay multi-range timer relay with auxiliary supply |
| NGZP 31 / NGZP 32 / NGZP 32-S | ON-delay single-range timer relay with remote potentiometer connection |
| NGZP 71 / NGZP 72 / NGZP 72-S | ON-delay multi-range timer relay with remote potentiometer connection |
| SID 32 | Digital pre-set pulse counter |
| SPT 72 D | Multi-range repeat cycle timer |
| SSY 12 | Interval ON and/or OFF fixed timer relay |

Our Hotline will support you with pleasure regarding newer and more cost effective versions.

Phone (Germany) +49 9 51 93 24-995 • For local phone numbers see page 107.

Electromechanical Timer and switching relays for DIN rails

ON-delay multi-range electro-mechanical timer relays
SZA 52-S / SZA 52 / SZAN 52-S / SZA 54-2S



- Devices for single voltage
- Function: ON-delay (AV), SZAN 52-S protected against power failure
- 1 setting range divided into 6 time ranges
- Contact assignment:
 - SZA 52-S = 1 timed and 1 instantaneous change-over contact
 - SZAN 52-S = 1 timed and 1 instantaneous change-over contact
 - SZA 52 = 2 timed change-over contact
 - SZA 54-2S = 1 timed and 1 instantaneous normally closed contact (NC)
1 timed and 1 instantaneous normally open contact (NO)

OFF-delay multi-range electro-mechanical timer relay with auxiliary supply,
SZA 521



- Devices for single voltage
- function: OFF-delay (RV)
- 1 setting range divided into 6 time ranges
- Contact assignment: 1 timed and 1 instantaneous change-over contact

Electromechanical multi-range repeat cycle timer
SPZA 52



- Function: repeat cycle timer (TI) starting with ON
- ON and OFF times can be selected independently of one another
- 1 setting range divided into 6 time ranges
- Contact assignment: 1 normally open, 1 normally closed

Electromechanical stepping relay
SSF 32 / SSF 52 / SSF 62



- Devices for single voltage
- Function: stepping relay
- Contact assignment:
 - SSF 32 = 2 NO contacts, simultaneously switched in an ON-OFF cycle
 - SSF 52 = 1 NO contact and 1 NC contact, reciprocally switched in an ON-OFF cycle
 - SSF 62 = 1 NO contact and 1 NC contact, reciprocally switched in an ON-OFF cycle

Electromechanical latching relay
SSP 56 / SSP 72 / SSP 33 / SSP 34



- Devices for single voltage
- Function: Latching relay
- Contact assignment:
 - SSP 56 = 3 NO contact and 3 NC contact
 - SSP 72 = 2 change-over contact
 - SSP 33 = 3 change-over contact
 - SSP 34 = 4 change-over contact

Electronic timer and switching relays for panel mounting

flare TIME FM15-1

- Multi-function timer
- High-contrast color display
- 15 time functions
- Front panel mounting 48 x 48 mm
- Wide temperature range
- 1 change-over contact 5 A



| Type | Part No. | |
|-----------------------------------|----------------------------|------------------|
| flare TIME FM15-1 (24 V) | 81.020.0020.0 | |
| flare TIME FM15-1 (230 V) | 81.020.0021.0 | |
| Technical data | | |
| Input voltage range | 4.5...30 V DC | 85...264 V AC/DC |
| Time range | 0.001 s ... 999 h | |
| Time functions | 15 | |
| Number of change-over contacts | 1 | |
| Maximum switching current | 5A | |
| Mechanical life time | 10 x 10 ⁶ | |
| Electrical life time AC1 | 0.1 x 10 ⁶ | |
| Isolation voltage of input/output | 2 kV | |
| Connection clamps | Screw clamp | |
| Wire range fine-stranded/solid | 0.14 - 2,5 mm ² | |
| Degree of protection | IP20 / IP 66 (optional) | |
| Dimensions (mm) W x H x D | 48 x 48 x 65 | 48 x 48 x 85,5 |
| Operation temperature range | -10 ... +55 °C | |
| Approvals | CE | |



The below listed electronic timers and switching relays are still available.

Detailed information can be found in our e-catalogue at <http://eshop.wieland-electric.com>

Type at search the product family name, e.g. NGZ11 (without blank)

| Product family | Description |
|----------------|--|
| DZD 92 L | Multi-function multi-range timer relay |
| UID 51 | Digital multi-function pre-set pulse counter |
| UZD 51 | Digital multi-function multi-range timer relay |

Our Hotline will support you with pleasure regarding newer and more cost effective versions.
Phone (Germany): +49 9 51 93 24-995 • For local phone numbers see page 107.



Electromechanical timer and switching relays for panel mounting

**ON-delay
single-range timer relay,
electromechanical
DZ 12-S L* / DZN 12-S L**



- Devices for single voltage
- Function: ON-delay (AV), DZN 12-S L protected against power failure
- 1 time range
- Contact assignment: 1 timed and 1 instantaneous change-over contact
- Cover: 72 x 72 mm
- Panel cutout: □ 68 mm
- Push-on connections 6.3 mm

**ON-delay
multi-range electromechanical
timer relay
DZ 52-S G**



- Device for single voltage
- Function: ON-delay (AV)
- 1 Setting range, divided into 5 oder 6 time ranges
- Contact assignment: 1 timed change-over contact and 1 instantaneous NO contact
- Cover: 72 x 72 mm
- Panel cutout: □ 68 mm

**ON-delay
multi-range electromechanical
timer relay,
for burner control system
DZR 52-S L**



- Device for single voltage
- Function: ON-delay (AV) for burner control system
- 1 Setting range divided into 5 or 6 time ranges
- Contact assignment: 1 timed and 1 instantaneous change-over contact
- Cover: 72 x 72 mm
- Panel cutout: □ 68 mm
- Push-on connections 6.3 mm

**ON-delay
multi-range electromechanical
timer relay
DZ 52-S L / DZN 52-S L**



- Devices for single voltage
- Function: ON-delay (AV), DZN 52-S L protected against power failure
- 1 setting range divided into 5 or 6 time ranges
- Contact assignment: 1 timed and 1 instantaneous change-over contact
- Cover: 72 x 72 mm
- Panel cutout: □ 68 mm
- Push-on connections 6.3 mm

**ON-delay
multi-range electromechanical
timer relay
DZA 52-S L / DZA 53-S L
DZAN 52-S L / DZA 52 L**



- Devices for single voltage
- Function: ON-delay (AV), DZAN 52-S L protected against power failure
- 1 setting range divided into 6 time ranges
- Contact assignment:
 - DZA 52-S L = 1 timed and 1 instantaneous change-over contact
 - DZAN 52-S L = 1 timed and 1 instantaneous change-over contact
 - DZA 53-S L = 2 timed change-over contact and 1 instantaneous NO contact
 - DZA 52 L = 2 timed change-over contact
- Cover: 72 x 72 mm
- Panel cutout: □ 68 mm
- Push-on connections 6.3 mm

Electromechanical timer and switching relays for panel mounting

ON-delay multi-range electromechanical timer relay DZ 74-2S L



- Devices for single voltage
- Function: ON-delay (AV)
- 1 setting range divided into 6 time ranges
- Contact assignment:
1 timed NC contact,
1 instantaneous and 1 timed NO contact
- without time accumulation
- Cover: 96 x 96 mm
- Panel cutout: □ 91 mm
- Push-on connections 6.3 mm

ON-delay multi-range electromechanical timer relay DZ 72-S / DZ 74-2S



- Devices for single voltage
- Function: ON-delay (AV)
- 1 setting range divided into 5 or 6 time ranges
- Contact assignment:
DZ 72-S = 1 timed and 1 instantaneous
change-over contact
DZ 74-2S = 1 instantaneous and 1 timed NC contact,
1 instantaneous and 1 timed NO contact
- Cover: 96 x 96 mm
- Panel cutout: □ 91 mm

ON-delay single-range electromechanical timer relay, for burner control system DZR 12-S L



- Devices for single voltage
- Function: ON-delay (AV) for burner control system
- 1 time range
- Contact assignment: 1 timed and 1 instantaneous
change-over contact
- Cover: 72 x 72 mm
- Panel cutout: □ 68 mm
- Push-on connections 6.3 mm

OFF-delay multi-range electromechanical timer relay DZ 521 L



- Devices for single voltage
- Function: OFF-delay (RV)
- 1 setting range divided into 5 or 6 time ranges
- Contact assignment: 1 timed and 1 instantaneous
change-over contact
- Cover: 72 x 72 mm
- Panel cutout: □ 68 mm
- Push-on connections 6.3 mm

OFF-delay multi-range electromechanical timer relay DZA 521 L



- Devices for single voltage
- Function: OFF-delay (RV)
- 1 setting range divided into 6 time ranges
- Contact assignment: 1 timed and 1 instantaneous
change-over contact
- Cover: 72 x 72 mm
- Panel cutout: □ 68 mm
- Push-on connections 6.3 mm
- New housing concept

Detailed information can be found in our e-catalogue at <http://eshop.wieland-electric.com>

Type at search the product family name, e.g. DZ12 (without blank)





Measuring & control

precise and safe

Always live

Electronic measuring and monitoring relays for measuring input values such as current, voltage, 3-phases, cos phi, temperature. They carry out both simple and complex monitoring in machines and systems.



Features:

- The optimum device for every monitoring task
- Voltage, current, phase sequence, phase error, temperature or cos phi
- Broad temperature range
- Gold-plated switching contacts for maximum operational reliability



Benefits

- Upper and lower threshold separately adjustable
- 3 measuring ranges (single phase)
- Closed circuit or operating circuit principle
- Time delay 0 ... 10 s adjustable
- Wide input voltage range 20.4 ... 264 V AC/DC
- Width 22.5 mm
- Pluggable screw clamps
- Wide temperature range



Multi-functional measuring relay

economical and flexible

Measuring relays **flare** CONTROL

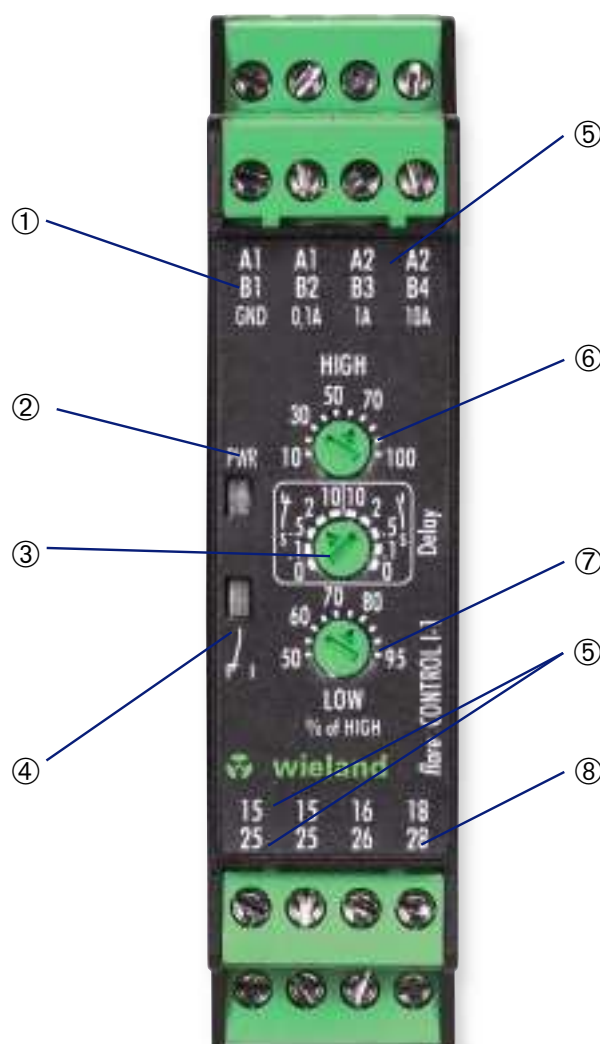
The product family **flare** CONTROL convinces by the universal use in industrial automation.

All functions required for measuring relays are combined in one device. Only one type for current and voltage measurement is necessary.

This simplifies engineering and reduces stock.

Features:

- ① 3 measuring ranges in one device
- ② Power LED
- ③ Adjustable for closed circuit or operating circuit principle
In additional also time delay for exceeding the threshold
- ③ LED for status of relay
- ⑤ One terminal for supply voltage
- ⑥ Upper threshold in percent of measuring range
- ⑦ Lower threshold in percent of upper threshold
- ⑧ 2 change over contacts simultaneously switching, one change-over contact per terminal



Measuring relay

flare CONTROL U-1-A

- Multi-function measuring relay
- Upper and lower threshold separately adjustable
- 3 measurement ranges (single phase)
- Signal shape DC and sinus
- Closed circuit or operating circuit principle
- Time delay at exceeding the threshold adjustable
- Wide input voltage range 20,4 ... 264 V AC/DC
- Width 22.5 mm
- Pluggable screw clamps
- Wide temperature range
- 2 change-over contacts 5 A



| Type | Part No. |
|--|---|
| flare CONTROL U-1-A | 81.030.0100.0 |
| Technical data | |
| Measuring ranges | 5 / 50 / 300 V |
| Upper threshold | 10...100 % of measuring range |
| Lower threshold | 50 ... 95 % of upper threshold |
| Signal shape | DC and sinus |
| Nominal frequency of measured signal at AC | 45 ... 400 Hz |
| Nominal power | app. 2 W / 4 VA |
| Supply voltage range | 20.4 ... 264 V AC/DC |
| Galvanic isolation toward supply | Yes |
| Functions | Closed circuit or operating circuit principle |
| Time delay at exceeding the threshold | 0 / 0.1 / 0.5 / 2 / 10 s |
| Number of change-over contacts | 2 (simultaneously switching) |
| Maximum switching current | 5 A |
| Mechanical life time | 20 x 10 ⁶ |
| Electrical life time AC1 | 0.1 x 10 ⁶ |
| Isolation voltage of input/output | 2 kV |
| Connection clamps | Pluggable screw clamp |
| Wire range fine-stranded/solid | 0.14 - 1.5 mm ² / 0.14 - 2.5 mm ² |
| Degree of protection / mounting rail | IP 20 / TH 35 (EN60715) |
| Dimensions (mm) W x H x D | 22.5 x 96.5 x 114 |
| Operation temperature range | -20 ... +60 °C |
| Approvals | CE |

flare CONTROL I-1-A


- Multi-function measuring relay
- Upper and lower threshold separately adjustable
- 3 measuring ranges (single phase)
- Signal shape DC and sinus
- Closed circuit or operating circuit principle
- Time delay at exceeding the threshold adjustable
- Wide input voltage range 20,4 ... 264 V AC/DC
- Width 22.5 mm
- Pluggable screw clamps
- Wide temperature range
- 2 change-over contacts 5 A




| Type | Part No. |
|--|---|
| flare CONTROL I-1-A | 81.030.0110.0 |
| Technical data | |
| Measuring ranges | 0,1 / 1 / 10 A |
| Upper threshold | 10...100 % of measuring range |
| Lower threshold | 50 ... 95 % of upper threshold |
| Signal shape | DC and sinus |
| Nominal frequency of measured signal at AC | 45 ... 400 Hz |
| Nominal power | ca. 2 W / 4 VA |
| Supply voltage range | 20.4 ... 264 V AC/DC |
| Galvanic isolation toward supply | Yes |
| Functions | Closed circuit or operating circuit principle |
| Time delay at exceeding the threshold | 0 / 0.1 / 0,5 / 2 / 10 s |
| Number of change-over contacts | 2 (simultaneously switching) |
| Maximum switching current | 5 A |
| Mechanical life time | 20 x 10 ⁶ |
| Electrical life time AC1 | 0.1 x 10 ⁶ |
| Isolation voltage of input/output | 2 kV |
| Connection clamps | Pluggable screw clamp |
| Wire range fine-stranded/solid | 0.14 - 1.5 mm ² / 0.14 - 2.5 mm ² |
| Degree of protection / mounting rail | IP 20 / TH 35 (EN60715) |
| Dimensions (mm) W x H x D | 22.5 x 96.5 x 114 |
| Operation temperature range | -20 ... +60 °C |
| Approvals | CE |



Monitoring relay

| | | |
|--|--|--------------------------|
| flare CONTROL P3-L <ul style="list-style-type: none"> • 3 phase monitoring relay • Detection for loss of one or more phases • Detection of wrong phase sequence • Closed circuit principle • Width 22.5 mm • 1 change-over contact 6 A | Type | Part No. |
| | flare CONTROL P3-L | 81.030.0020.0 |
| | Technical data | |
| | Supply voltage range | 200 ... 500 V AC |
| | Detection time | max. 0.1 s |
| | Number of change-over contacts | 1 |
| | Maximum switching current | 6 A |
| | Mechanical life time | 10 x 10 ⁶ |
| | Electrical life time AC1 | 0.05 x 10 ⁶ |
| | Connection clamps | Screw clamp |
| | Wire range fine-stranded/solid | 0.14 - 4 mm ² |
| | Degree of protection / Mounting rail | IP 20 / TH 35 (EN60715) |
| | Dimensions (mm) W x H x D | 22.5 x 100 x 100 |
| | Operation temperature range | -20 ... +60°C |
| Approvals | CE  | |

| | | |
|--|--|--------------------------|
| flare CONTROL P3-LTH <ul style="list-style-type: none"> • 3 phase monitoring relay • 3 or 4 wire monitoring • Detection for loss of one or more phases • Detection of wrong phase sequence • Adjustable asymmetry trigger 3 wire • Closed circuit principle • Supports worldwide mains systems (adjustable) • Width 22,5 mm • 1 change-over contact 6 A | Type | Part No. |
| | flare CONTROL P3-LTH | 81.030.0021.0 |
| | Technical data | |
| | Supply voltage 3 phase / 3 wire | 380, 400, 415, 480 V AC |
| | Supply voltage 3 phase / 4 wire | 220, 230, 240, 277 V AC |
| | Detection range for asymmetry | 2 ... 22 % |
| | Detection time at asymmetry | 0.1 ... 30 s |
| | Number of change-over contacts | 1 |
| | Maximum switching current | 6 A |
| | Mechanical life time | 10 x 10 ⁶ |
| | Electrical life time AC1 | 0.05 x 10 ⁶ |
| | Connection clamps | Screw clamp |
| | Wire range fine-stranded/solid | 0.14 - 4 mm ² |
| | Degree of protection / Mounting rail | IP 20 / TH 35 (EN60715) |
| Dimensions (mm) W x H x D | 22.5 x 100 x 100 | |
| Operation temperature range | -20 ... +60 °C | |
| Approvals | CE  | |



Measuring and monitoring relays



The below listed measuring and monitoring relays are still available.

Detailed information can be found in our e-catalogue at <http://eshop.wieland-electric.com>

Type at search the product family name, e.g. NMU1001 (without blank)

| Product family | Description |
|--------------------------------|---------------------------------------|
| NMU 1001 | Voltage measuring relay |
| SAM 1001 | Phase sequence - phase failure relay |
| SAP 1002 / SAP 1003 | Phase sequence relay |
| SIM 1001 | Current measuring relay |
| SMS 1002 / SMS 1005 / SMS 1006 | Temperature monitors |
| SPW 1004 / SPW 1005 | Phase sequence - phase failure relay |
| STW 1001 / STW 1002 | Monitor for thermocouple NiCr-Ni |
| STW 1101 / STW 1102 | Monitor for thermal resistance Pt 100 |
| SUM 1001 | Voltage measuring relay |
| SUW 1001 | Voltage monitor |
| SUW 3001 | Networking monitoring relay |
| SXT 12 / SXT 32 | Current/voltage measuring relay |

Our Hotline will support you with pleasure regarding newer and more cost effective versions.

Phone (Germany): +49 9 51 93 24-995 • For local phone numbers see page 107.





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A Touch of Spring in Installat

Złącza do trudnych warunków.

contacts
are
green.

gesta
Steckbare Elektroinstallation
in IP65 bis IP68
Katalog 2007

Safety products
Safety for
all applications

revis
3-48 potown
płaz w obudowie plastik
(metalowe)



More products which complement your *interface* applications

Contacts are green

Wieland Electric is one of the global technology and innovation leaders in the field of pluggable connections for building system technology and industrial automation. Wherever power and signals are distributed, Wieland's motto is: green light for innovative ideas. Because: contacts are green.

Wieland Electric offers you suitable products for all applications.



Wieland product ranges:

- DIN rail terminal blocks
- Safety
- Fieldbus components
- Distributed automation
- Circular connector system
- Industrial plug connectors
- System plug connectors





Compact safety control **samos**[®] PRO

Modular safety units **samos**[®]



More information is available in the "Safety first" brochure.

Order No. 0860.1

Safety is a matter of confidence

The demands on facilities, machines and vehicles are high these days. Apart from the productivity and efficiency of a machine or vehicle, the focus is also increasingly on safety. Designing modern means of transportation, facilities and machines also requires consideration of the safety of the persons working with these machines or using these means of transportation.



Reliable and innovative solutions are needed that contribute to meeting this important requirement without affecting the productivity and availability of the facility or means of transportation. With its **sensor PRO**, **S4000**, **samos®** and **samos® PRO**, Wieland Electric offers superior quality safety components which can contribute substantially to safety in production and operation of modern facilities or machines.

Universal safety relays
S4000



Reliable signal detection
sensor PRO



fasis* & *selos

Innovative DIN rail terminal blocks

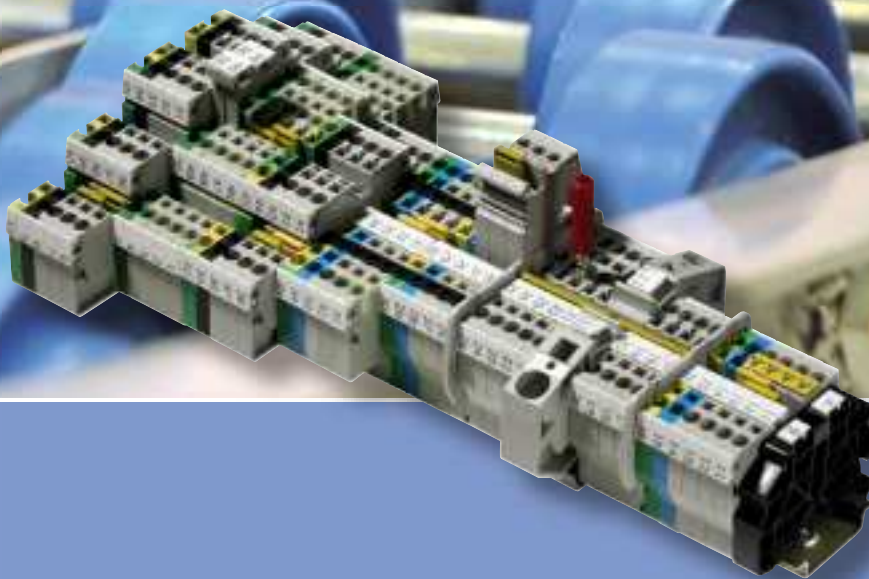
DIN rail terminal blocks are the standard connection component in all areas of electrical engineering. Whether in machinery or power supply applications, DIN rail terminal blocks are used for signal and power distribution as well as for the conventional electrical installation of buildings.

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

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

- ***fasis*** – DIN rail terminal blocks with spring clamp and push-in connection
- ***selos*** – DIN rail terminal blocks with screw connection

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





Application

Wieland Electric supplies superior quality products for user specific applications.

fasis and selos rail terminal block system features:

- Reliable functionality
- Efficient applications
- Customized to your needs



Functionality and system

Terminal blocks are electrical wire connection systems and can be found wherever electrical energy is generated, transferred and distributed.

System components for measuring and control tasks are, e.g.:

- Isolating terminals
- Fuse blocks
- Function blocks



Planning and configuration

wieplan was developed to provide you with a powerful software tool for configuring terminal block assemblies using Wieland rail terminal blocks.

- Configuring terminal block assemblies
- Data exchange with CAE systems
- Ordering terminal block assemblies
- Issuing drawing and parts lists



Pre-assembly and installation

For customers who want to save time and work on the control cabinet, Wieland Electric offers pre-assembled, fully equipped terminal blocks – even with connected conductors, if desired.

- Marking system of all applications in the switch board cabinet
- Hand held tools for terminal blocks and accessories
- Software tools



fasis – Terminal blocks with tension spring connection



The product line includes feed-through blocks and ground blocks with 2-, 3- or 4-conductor connection points, multi-tier blocks in 2- and 3-tier design, knife-edge disconnect blocks in 1- and 2-tier design and fuse blocks. In addition, functional terminals with application-specific diode circuits are also available.

Because of its vibration-resistant tension spring connection, **fasis** WKFN is suitable for applications in rail vehicles.

Special catalog

fasis – Terminal blocks with tension spring connection

Order no: 0124.0

fasis CON – Plug & Play in the control cabinet



fasis CON consists of feed-through blocks, multi-tier blocks and PE DIN rail terminal blocks with different numbers of wire terminations and pluggable outgoing feeders for the **fasis** CON socket connectors.

fasis CON is a fully compatible part of the established **fasis** WKFN system. Both the terminal and the plug connector possess the features of **fasis** WKFN.

fasis CON is a cost-effective, high-performance and pluggable system solution.

Customer information

fasis CON – Terminal blocks with plug-in connection

Order no: 0130.0

selos – Terminal blocks with screw connection



The product line includes feed-through and ground blocks with 2-, 3- or 4-conductor connection points, multi-tier blocks in 2- and 3-tier design, knife-edge disconnect blocks and fuse blocks. In addition, functional terminals with a wide variety of diode circuits and various application-specific special terminals such as transformer disconnect blocks or resistor compensation terminals are also available.

selos has been designed for applications in mechanical engineering and plant construction, as well as for explosion-protected areas.

Special catalog

selos – Terminal blocks with screw connection

Order no: 0125.0

fasis^{BIT} / selos^{BIT} – Terminal blocks for the junction box



Increasing automation in buildings and the safety functions to be installed in buildings increase the requirements for energy and signal management in electrical distribution systems. The growing number of circuits require a terminal block system that can be used in confined spaces and reduces the wiring effort, thereby lowering costs and still offering clear and effective wiring. Wieland Electric terminal blocks meet these requirements and offer you the right solution. The product series **fasis^{BIT} / selos^{BIT}** is designed for use in distribution systems and takes the standardized dimensions for small and field distribution boards with covers according to DIN 43871 into account.

Special catalog

selos / fasis^{BIT} – Terminal blocks for the junction box

Order no: 0117.0

wieplan – Configuration software for terminal blocks



wieplan provides a powerful software tool for configuring terminal strips with Wieland terminal blocks.

wieplan is available in 4 languages. Operation is user-friendly and the intuitive user interface guides you step-by-step through the entire configuration process. You then have the option of ordering the customer specific din rail assembly from Wieland – completely pre-assembled.

Save valuable time and money with **wieplan**!

wiemarc – Marking system for terminal blocks



Wieland Electric named individual labeling of terminal blocks **wiemarc** and **wiewplot**. The **wiemarc** software offers you the greatest possible flexibility when labeling your terminal strips. In combination with **wiewplot**, the wiewplot software provides you with a high-performance labeling system to professionally perform any labeling task - from labeling a marking tag to mass-labeling your terminal strips.

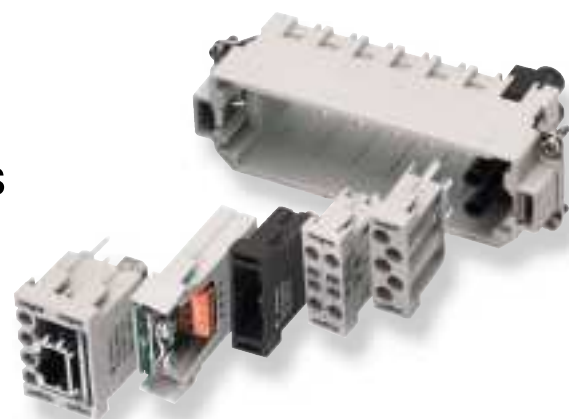
But **wiewplot** offers you even more! In addition to marking tags for terminal blocks, you can also print stickers, labels or wire markers, and with a simple conversion, you can turn your plotter into a high-performance engraving system.





For any application – Heavy-duty industrial connectors

The **revos** heavy-duty industrial connectors are categorized according to their housings, contact inserts and connection technology. A wide range standard program, as well as modular components that can be combined, per customer specific requirements, are available.



- **revos** BASIC with 6 to 92-pole contact inserts
- **revos** POWER high-current pluggable connector for currents up to 100 A
- **revos** HD high density multipole pluggable connector with up to 64 poles and up to 10 A
- **revos** FLEX modular hybrid pluggable connector system to equip your connector, as needed, with mixed contact inserts, including signal, pneumatics and fiber optic cable components
- **revos** BASIC EMV for applications where electromagnetic interferences must be shielded from entering or exiting the connector.



revos BASIC



The conventional industrial connector. The die-cast aluminum housing with powder-coated surface provides reliable protection. The contact inserts come in 6-92-pole design. **revos** BASIC meets the highest demands and is used in the automotive industry, mechanical and system engineering, conveyor systems, and process measuring and control technology.

revos POWER



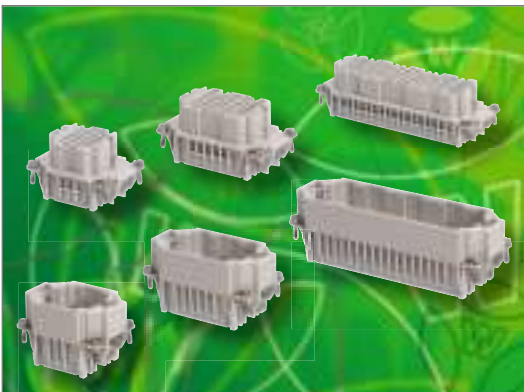
The Wieland Electric high current pluggable connector. Contact inserts and multipole adapters accommodate currents exceeding 16 A and are also available with a mix of contact amperages with screw connection. Contact inserts and adapters are protected inside the **revos** BASIC housings. **revos** POWER applications include mechanical and system engineering for small drives, motors, pumps and frequency converters.

revos HD



revos HD is designed specifically for multi-pole pluggable connectors. The robust housings provide space for contact inserts with 15 to 64 poles and are designed for currents up to 10 A (in compliance with DIN EN 17 5301-801). **revos** HD proves its strengths in mechanical and system engineering, in escalators, small motors and injection molding machines.

revos DD



High contact density in a very limited space – this is what **revos** DD space-saving contact inserts offer. The inserts are compatible with BASIC housing sizes 6/6H-, 10/10H-, 16/16H-, and 24/24H. They are connected with reliable, turned 1.6 mm crimp contacts and a termination range of 0.14 – 2.5 mm² at a rated voltage of 250 V.

revos FLEX



Do you want a customized industrial pluggable connector for your specific application? No problem, thanks to **revos FLEX**. With this modular and flexible system, you are free to configure and assemble your pluggable connector according to your needs. The smart solution for any tasks in mechanical and system engineering, in process measuring and control technology and the automotive industry.

revos MINI



Small but robust. Thanks to its extremely compact contact inserts with 3 to 12 poles, **revos MINI** can be integrated in applications for mechanical, control systems and control engineering, small motors and lighting engineering. Its zinc die-cast or polyamide pluggable connector housing helps **revos MINI** to withstand rough environments.

revos



In explosion hazardous areas such as mining or the chemical industry, electrical components need to meet specific requirements. The **revos**® series provides heavy-duty pluggable connectors especially designed for systems where explosion protection is absolutely essential. The BVS (Association of Publicly Certified and Qualified Experts) testing institute approved the use of **revos**® in zone 1 for intrinsically safe circuits.

revos IT



In some applications, the data cable feed-through must be protected by a heavy-duty pluggable connector. **revos IT** is the ideal solution. These connectors facilitate the feeding of pre-assembled cables into a closed, sealed housing with strain relief. D-sub plug-in connections are available with 4 to 100 poles. **revos IT** protects data transmission to PLCs or to measuring and encoder lines.





podis® & gesis® Systems with unique advantages

podis® – uninterrupted flat cable

Application

- in conveyor systems
- in linear-designed facilities
- in expandable systems
- in modular-designed systems

Advantages podis® – uncut flat cable

- No cutting, no stripping
- Quick and easy connection
- Secure terminations
- Just a few components for the entire system
- Easy-to-add drops wherever needed



gesis® – plug-in round cable

Application

- In conveyor facilities
- For modular-design facilities
- For star or network structures
- Where complex cable routing is an issue

Advantages gesis® – plug-in round cable

- Plug in and go
- Ideal for modular systems
- Easy creation of network structures
- Just a few components for entire system
- Can be expanded as required



Software TOOLS

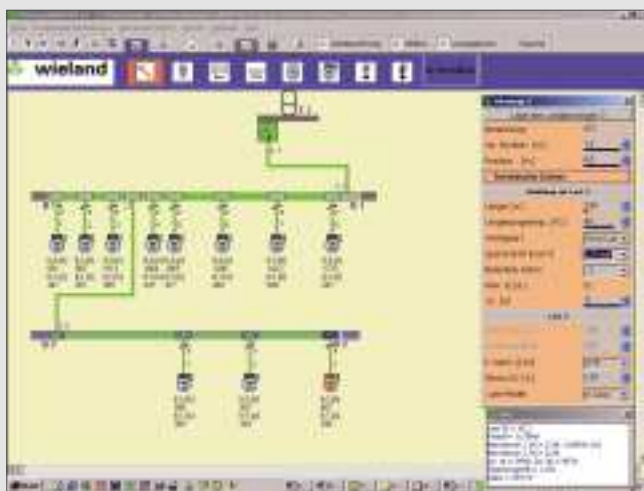
Wieland Software perfects your applications

Wieland Electric offers specially designed software for its individual products, making them exceptionally easy to use and making configuration and product selection easy.



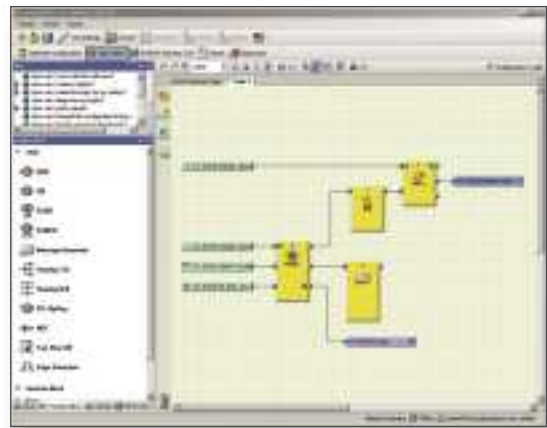
revos configurator

This software tool facilitates the selection of heavy-duty connectors.



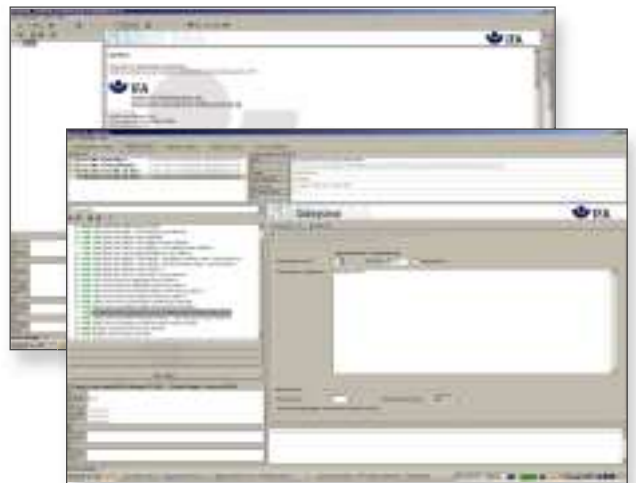
podis PLAN

podis PLAN, allows you to design your distributed power bus perfectly and test important electrotechnical parameters.



samos PLAN

This programming tool for samos PRO supports designers and machine manufacturers in the programming, diagnosis, and documentation of all the safety functions of a machine.



SISTEMA library

The SISTEMA library contains all safety components from Wieland Electric and, in combination with the SISTEMA software tool provided by the IFA (Institute for Occupational Safety and Health of the German Social Accident Insurance), allows the safety-related parameters of a machine's functions to be calculated according to EN ISO 13849-1.



wieplan wiemarc

DIN rail terminal blocks: Planning and labeling with a system



Hotline – one call is all it takes

Our Technical Service Department is ready to answer all your questions on the subject of interface.

Please call our hotline **+49 951 9324-995**.



Wieland e-Catalog

For further technical information and the latest news on interface technology, go to:

<http://eshop.wieland-electric.com>



Hotline numbers

Sales Department:

Phone

Questions for the sales department:
availability, delivery time and prices

+49 951 9324-990

Technical Support:

Technical questions regarding product
features and application options of our
products as well as functionality and equipment:

Area of Automation technology:

- Terminal blocks **fasis, selos** +49 951 9324-991
- Safety engineering **safety** +49 951 9324-999
- Decentralized I/O, +49 951 9324-995
power supply, overvoltage protection,
measuring and monitoring relays,
timer relays, coupling relays, analog modules,
passive interfaces **interface**
- Decentralized power distribution **podis**[®] +49 951 9324-998
- Industrial plug connector **revos** +49 951 9324-997
- Device terminals, European terminal
strips, empty housings +49 951 9324-993
- PCB terminals **wiecon** +49 951 9324-994

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Area of facility installation technology:

- System plug connectors for building
installation **gesis**[®], **gesis**[®] ELECTRONIC +49 951 9324-996
- Terminal blocks **fasis**_{BIT}, **selos**_{BIT} +49 951 9324-992

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info@wieland-electric.com

Industrial technology

Solutions for the control cabinet

- DIN rail terminal blocks
 - Screw, tension spring or push-in connection technology
 - Wire cross sections up to 240 mm²
 - Numerous special functions
 - Software solutions interfacing to CAE systems
- Safety
 - Safe signal acquisition
 - Safety switching devices
 - Modular safety modules
 - Compact safety controllers
 - Applicative consultancy and training
- Network engineering and fieldbus systems
 - Remote maintenance via VPN industrial router and VPN service portal
 - Industrial Ethernet switches
 - PLC and I/O systems, standard and increased environmental conditions
- Interface
 - Power supply units
 - Overvoltage protection
 - Coupling relays, semiconductor switches
 - Timer relays, measuring and monitoring relays
 - Analog coupling and converter modules
 - Passive interfaces

Solutions for field applications

- Decentralized installation and automation technology
 - Electrical installation for wind tower
 - Fieldbus interfaces and motor starters
- Connectors for industrial applications
 - Rectangular and round connectors
 - Aluminum or plastic housings
 - Degree of protection up to IP68
 - 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 IP20/IP65...IP68
 - Bus 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

0800.1 C 03/12

contacts
are
green.