

WORLD OF RELAYS

PUSH-IN RELAY SOCKETS FOR ROLLING STOCK | MRS13R & CTF | INTRODUCING | NEW CUSTOMER PORTAL

EDITORIAL

Dear readers,

World of Relays is far more than a slogan. It represents our commitment to offering a comprehensive and coherent relay portfolio, aligned with the real-world requirements of our customers, from traditional vehicle applications to safety-critical infrastructure projects in the railway sector.

The products, applications, and services presented in this issue all follow this same principle.

The railway industry places the highest demands on safety, availability, and service life. That is why we develop solutions designed to ensure predictable and reliable performance over many years. With the MRS13R and the CTF series, we demonstrate how proven relay technology can be combined with the requirements of modern railway and infrastructure applications. Positively guided contacts, clearly defined switching states, and software-independent functionality provide transparency while supporting safe and efficient operation.

The practical value of this approach is demonstrated by our collaboration with Windhoff. Our push-in relay sockets enable compact, service-friendly control cabinet solutions for modern rail vehicles and help reduce both installation and maintenance efforts. Applications such as these reinforce our commitment to addressing technical challenges with solutions that are simple, reliable, and cost-effective.

Another highlight this year is our participation in InnoTrans in Berlin. As an exhibitor within the Swiss Pavilion, we look forward to meeting customers, partners, and industry professionals from around the world, exchanging new ideas, and discussing the future of railway technology together. Innovation thrives on dialogue, and this dialogue is an essential part of our success.

All of these developments are guided by a common principle: enhancing existing solutions in a focused and purposeful way, without unnecessary complexity, but with clear and practical benefits. This is how we understand *World of Relays*: a comprehensive product portfolio combined with controlled functionality, high reliability, and a long-term understanding of our customers' requirements.

We hope you enjoy reading this issue and look forward to discussing your applications and challenges with you.



Alexandre El Soda
CEO, ComatReleco AG



APPLICATION – PUSH-IN RELAY SOCKETS FOR ROLLING STOCK

Efficient control cabinet solutions for the MPV® VentuS®

Modern Windhoff vehicles such as the MPV® VentuS® require compact, flexible, and standards-compliant control cabinet solutions. ComatReleco relays are used to control auxiliary equipment such as heaters, windscreen wipers, solenoid valves, fans, and small motors. Conventional relay sockets often require significant installation space, extensive wiring, and result in longer maintenance times. The S7-PIR and S9-PIR Push-In relay sockets provide a space-saving and railway-certified alternative.

More space through vertical integration

The Push-In sockets feature a vertical arrangement of terminal connections, with each contact provided in duplicate. This design makes optimal use of the available control cabinet space while reducing the required mounting area. With a width of only 10.5 to 17.5 mm, the sockets offer space savings of up to 25% compared to conventional solutions on the market. This creates valuable reserves for future expansions or additional vehicle functions.

Fast and secure wiring

Push-In technology ensures vibration-resistant wiring without the need to re-tighten connections. It supports solid wires as well as stranded conductors with or without ferrules in cross-sections ranging from 0.34 to 2.5 mm². Each terminal provides two independent connection points, allowing loop-through wiring and potential distribution without the need for additional terminal blocks.

Reduced wiring effort with standardized A2 bridges

The same A2 potential bridge fits all relay sockets within the Push-In family. This allows potentials to be distributed directly across the sockets, eliminating numerous individual wiring connections. Standardized 2-pole and 4-pole potential bridges are also available for main power circuits. This reduces component variety, assembly effort, and inventory requirements. At the same time, cable density within wiring ducts is reduced, creating additional space for future expansions. The cleaner wiring layout also improves serviceability and supports a compact, standardized control cabinet architecture.



S7-PIR relay sockets installed in a Windhoff control cabinet

«Windhoff Bahn- und Anlagentechnik GmbH» (Rheine) has been a global leader in railway and infrastructure technology for more than 135 years. The company is renowned for its modular rail vehicles such as the MPV® VentuS®, as well as for railway workshops, shunting technology, and track construction equipment.



Optimized labeling and maintenance

The integrated holder for 11 mm marking strips enables clear and permanent identification of relays and circuits. This simplifies commissioning, troubleshooting, and maintenance throughout the vehicle's entire service life.

Relays can be replaced quickly during servicing. Integrated test openings allow measurements to be performed directly at the socket without disconnecting the wiring. The OT-PI tool additionally enables multiple Push-In connections to be released simultaneously, further reducing maintenance time. Color-coded operating levers also facilitate the quick identification of different control voltages.

Built-in railway certification

The PIR sockets comply with the requirements of EN 50155, EN 45545-2, and EN 60664-1 and have been specifically designed for railway applications. As a result, they can be integrated into modern rail vehicle concepts without additional certification effort.

Conclusion

The S7-PIR and S9-PIR Push-In relay sockets combine high packing density, reduced wiring requirements, standardized A2 bridges, integrated labeling options, and excellent serviceability in a railway-certified solution. For the MPV® VentuS®, they provide the foundation for compact, cost-effective, and future-proof control cabinet concepts with lower installation and maintenance effort. The compact RIC railway contactor ideally complements the use of the ComatReleco portfolio.

ComatReleco Products in Use

- S7-PIR & S9-PIR
Push-In relay sockets for slim control cabinets
- RIC20-110-SR / DC24V
RIC20-200-SR/DC24V
RIC-railway contactor



RIC railway contactor for controlling motor control relays in various applications

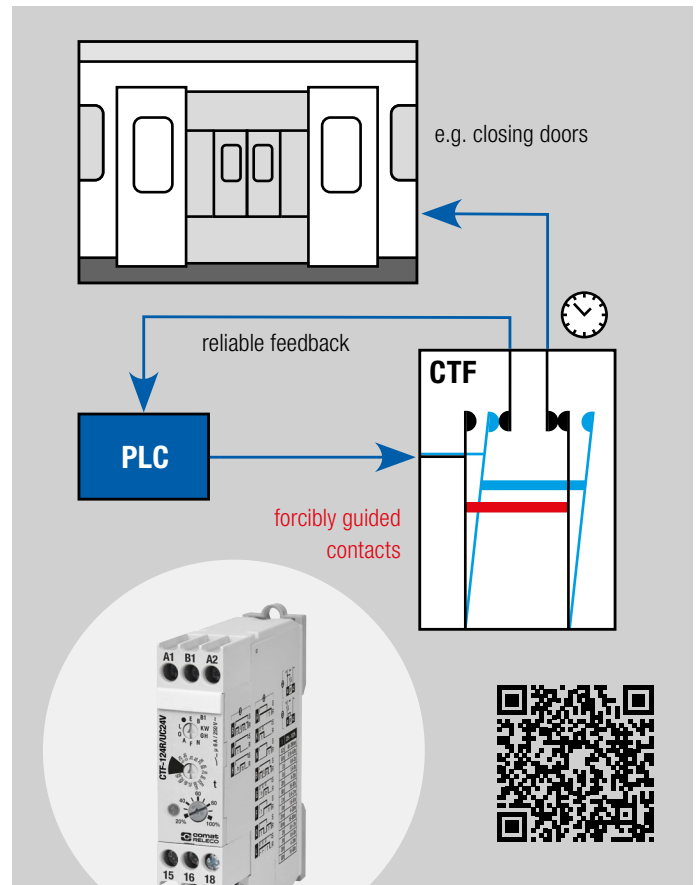
MRS13R / CTF – DESIGNING RELIABILITY WITH FORCIBLY GUIDED CONTACTS

Railway systems are designed to operate reliably over decades under demanding environmental and electrical conditions. In practice, system issues rarely arise from missing functions. They may occur when critical functions or components behave unpredictably under fault conditions. Unclear switching states, slow reactions or unreliable fault detection increase maintenance effort, complicate diagnostics and can impact system availability.

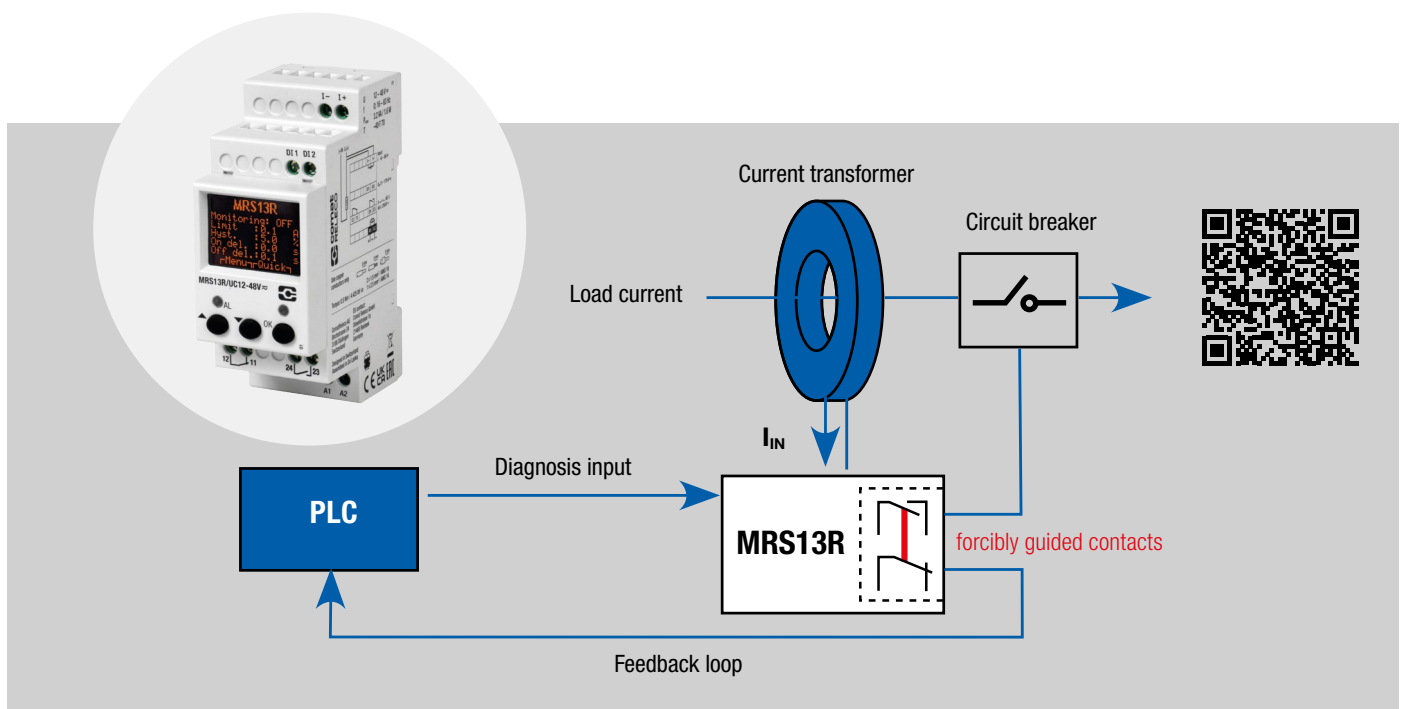
One proven design approach to address these challenges is the use of forcibly guided contacts. In this contact design, the contacts are mechanically linked so that they cannot be closed at the same time. This ensures clearly defined and reliably detectable switching states, even in the event of a contact fault. Integrated into application-specific device concepts, forcibly guided contacts enable accurate system feedback and predictable behaviour, supporting efficient commissioning and diagnostics over the entire lifecycle.

This principle is applied in the MRS13R overcurrent protection relay, a solution already proven in rolling stock and now extending into railway infrastructure. With a response time under 20 ms, it ensures fast fault isolation before downstream systems are damaged. A robust detection logic avoids unintended trips, while forcibly guided contacts provide accurate feedback to the control system. This supports clear diagnostics and reduces troubleshooting effort.

Building on the same design philosophy, the CTF series extends this approach to timing functions. It combines hardware-based timing control with forcibly guided contacts to ensure deterministic behaviour and clearly defined switching states. The software-free design avoids dependencies on software versions and reduces validation and commissioning effort compared to PLC-based solutions. In applications that do not require SIL certification, it offers a cost-effective alternative to safety relays with reliable, clearly defined status feedback for control and monitoring circuits. With a wide time range and a compact design, CTF relays support monitoring, sequencing and control tasks in space-constrained railway systems. Together, these solutions demonstrate how forcibly guided contacts fit naturally into a design philosophy focused on application-specific solutions and high-reliability products, supporting predictable behaviour, efficient diagnostics and long-term availability in railway systems.



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INTRODUCING – CUSTOMER LOGISTICS AND PROCUREMENT WITH KAROLINA IZBRANDT



Karolina combines professional ambition with the search for a place that truly suits her lifestyle. Switzerland offers her both: an international and challenging work environment at ComatReleco, as well as close access to mountains and nature. By making the move, she wanted to refocus her career while also finding a new sense of belonging in her personal life.

What have you learned in your previous roles that helps you in your current position?

Ever since my apprenticeship, there has been a common thread running through my career: international business in an industrial environment. My curiosity about different cultures and my affinity for numbers sparked an early interest in international trade processes.

Over the years, I have worked with customers from a wide range of industries and developed a deep understanding of distributor business models, first in sales and administration, and later while supporting an international distributor network across Europe.

At ComatReleco, I can apply this experience in export customer logistics and understand the needs of our international customers and distributors. At the same time, our extensive product portfolio gives me the opportunity to learn something new every day.

One important lesson I have learned is that successful customer relationships are not built on facts and figures alone. Trust, developed over time, is just as essential for long-term cooperation and success.

How does working with customers differ from working with suppliers?

In Procurement, I support two of our production sites in China. Purchasing is a highly analytical field and, given the current market and raw material situation, also a particularly challenging one. This makes thorough demand analysis and forward-looking planning especially important, even though unexpected developments can change priorities at any time.

Customer Logistics, on the other hand, is all about maintaining a constant presence. The focus is on quickly understanding our customers' varying needs and responding flexibly to changes.

The two areas are very different, and that is exactly what makes the combination so exciting for me. At ComatReleco, our motto, "We give our all for our customers," is genuinely lived every day. That is something I truly appreciate.

What motivated you to move to Switzerland?

It was the combination of an exciting and challenging position at ComatReleco and my very first impression of the team and the company culture. That combination was simply unbeatable.

At the same time, I had long wanted to live closer to nature and spend my free time outdoors, in the mountains, and surrounded by wide-open landscapes. I also felt the need to specialize more strongly in my professional career and establish a new anchor point in my life.

For me, Switzerland brings together many things: international trade, a dynamic industrial environment, and close proximity to nature.

So it was not only a professional decision, but also a decision about a certain way of working and living. I am very grateful and happy to be here today.

WEBSITE – THE NEW COMATRELECO CUSTOMER PORTAL IS NOW ONLINE

With the new customer login, you gain direct access to stock availability and can conveniently submit order requests online. This makes availability checks easier and significantly streamlines the ordering process.

We are expanding our website with a new customer area featuring an online shop function. There, you can view available stock levels in real time and sub-

mit order requests quickly and easily online. We have deliberately chosen not to display prices. Instead, your order confirmation will include your individual pricing conditions, all agreed discounts, and the confirmed delivery date.

If you would like to use the new customer portal, simply send an email to **info@comatreleco.com**. We will be happy to set up your personal access for you.

NEXT TRADE FAIRS – A VISIT TO COMATRELECO



22 – 25/09/2026
Berlin



07 – 08/10/2026 |
Bellinzona



09 – 11/11/2026
China



10 – 13/11/2026
Munich