



### EDITORIAL

Dear readers

**Company version 4.0!** In 2017, an extremely interesting and successful year drew to a close for our small company, which does almost half its business on the Swiss market and has experienced a sharp increase in its share of the international market. You are sure to have noticed already that Comat AG, which was founded in 1970, has now become ComatReleco AG. What you may not yet know is that the green industrial relays will soon become light blue. The name change is not really worth mentioning, but the colour change is more likely to make you sit up and take notice. Ultimately it is only a milestone for us along a journey that began with the acquisition of the Spanish company Releco SA in 2006. Both companies had known each other since 1975 and continuously strengthened their partnership.

Comat developed and produced products 'only' for the Swiss market. The acquisition of Releco in Spain taught us how to restructure and to optimise production costs, quality processes and the logistics concept. During this process we realised that we have flexible and motivated staff in Switzerland, the like of which can only be found in a few locations throughout the world.

Today ComatReleco pools its marketing, product management, research and development and the entire logistics sector in Switzerland. Sales are carried out locally in the individual markets. Every production plant worldwide has ComatReleco's own quality testing systems. Staff from quality management can access these systems online at any time. Manufactured products that have successfully passed the final inspections are delivered by sea or air to the central store in Switzerland. Incoming inspections are only necessary on a random sample basis for each batch.

This business and process architecture has given us a successful and growth-orientated positioning worldwide for our portfolio of standard and customised products. In 2017 we

experienced a growth of 20% in the industrial relay sector! This year we will bring the world's smallest push-in socket in this segment onto the market. The patent has already been registered. The functions and method of handling differ considerably from the products already on the market. The extra benefits for the customer place us considerably above the competition. We have been investing intensively for years in new developments in the electronic relay sector. Today we have one of the most cost-effective and efficient portfolios of solid state relays on the market. This year we are looking forward to the launch of our energy-monitoring relays.

We are in a period of transformation. Without this, ComatReleco – with its progressive globalisation, continuous digitalisation and special features such as the euro fixed rate resolution – would not exist any more. To develop products for Industry 4.0, our company itself has to be Version 4.0. We have arrived at that point and at the same time we are aware that a Version 5.0 will be required – we do not yet know what form it will take, but we believe we are equipped for it. This year, too, our 'Up!Date' has changed its name to 'WoR – World of Relays'. You are currently holding the first issue in your hands.

I thank you for the trust you have invested in our company and products and hope you enjoy reading this issue.

With 'Version 4.0' greetings,  
Peter Schmid, CEO





# METRO TRAINS – MOVING YOU AROUND MELBOURNE

**Metro Trains Melbourne**, known colloquially as simply **Metro**, is the franchised operator of the suburban railway network in Melbourne, Australia. Metro Trains Melbourne is a joint venture between MTR Corporation (60%), John Holland Group (20%) and UGL Rail (20%).

## The Comeng train

The Comeng trains are single deck and are semi-permanently coupled as M-T-M (motor-trailer-motor) sets, but these sets spend much of their time coupled in pairs as six-carriage sets. Comeng trains have power operated doors that must be pulled open by hand but are closed by the driver. The trains were the first suburban trains in Melbourne to have air-conditioning in the passenger saloon. They operate in larger numbers on the Northern, Dandenong, Cross City and Sandringham group lines, although some are continuing to run on the Burnley and Clifton Hill group lines which are serviced by a higher proportion of newer X'Trapolis trains.



## Different Refurbishments until now

Into the past the Comeng trains were fitted by interior arrangement, Upholstery – Seats, Seating arrangement, Cab Fittings - Windscreen Wiper and light covering. By end of 2019, 75% of the fleet would have the new upgrades.

## Safety of passengers thanks to corresponding door locks

It seems clear, that safety is not assured only by fitting new door handle. Safety request also an upgrade concerning the door control and Monitoring System. To cap this request MTM found true Arlin Pty Ltd (supplier for components & Hardware) a Swiss Premium product, developed and manufactured from ComatReleco Ltd in Switzerland. ComatReleco itself is a leading global supplier of high-quality components, systems and services in Industrial Automation, Electrical Installations and Railway and Transport Applications. Their core competencies are Industrial, Time and Monitoring Relays. The product portfolio enjoys an outstanding world-wide reputation.

The contactors Arlin finally supplied to Metro will be part of the train coupling / uncoupling circuit which is also part of the door control and monitoring system. In a nutshell, the uncoupling circuit, tells the train whether two carriage are electrically connected or not, and therefore the circuit ensure that the signal coming from the rear car doors will be transmitted across every car leading to the Drivers Cab. If a door is open in a rear carriage, the train will be able to detect it and will not be able to power. This is achieved by a series of safety contactor located in every car. The reason why these contactors are so important is because if one them was to fail, the train lined signal would be interrupted, leading the train into thinking that one of the carriage is electrically discon-

nected and therefore traction would be unavailable and train stopped.

There different reason why Metro finally chose this premium product from ComatReleco to fit the new safety generation in the Comeng Trains. The worldwide smallest body shape for railway contactors allows the installation in the existing electrical cabinets into the train. Corresponding to the EN50155 as an International standard, the ComataReleco contactor is covering the need for electronic, used on rolling stock. This standard cover aspects concerning temperature, humidity, shock, vibration, and other parameters.



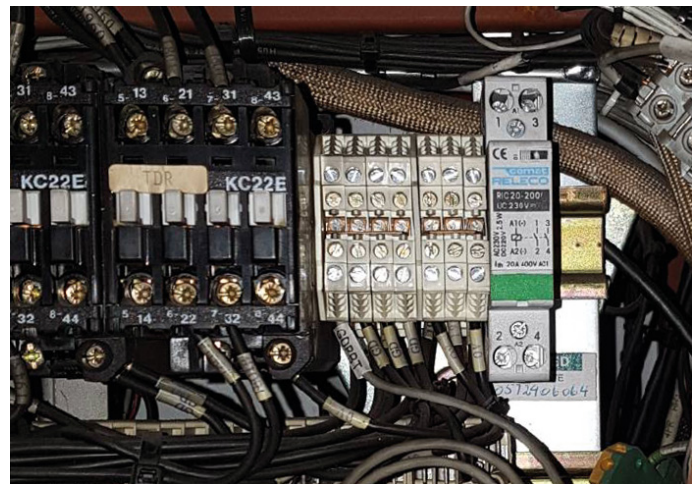
The old style door handle originally fitted to the Comeng trains



A new style door handle retrofitted to the Comeng trains, designed to make it harder to force the doors open

The Railway contactor from ComatReleco offers some more technical strengths. The coil voltage is available for 24, 36, 72 and 110VDC. This large portfolio allows a versatile use of this type of contactor. Be it in refurbishing or in new configuration. The rated operational current for DC-5 Application by 110VDC Voltage is 4A, assuring minimal switch cycles for more than 300'000 times. The use from this contactor is multifunctional and able to switch currents up to 20A. The integrated spacer allows a fast and technically correct mounting on site.

Of course safety will be done technically, but safety also need trust between manufacturer and the business partner. The relation between Arlin and MTM is very strong due to a long-term partnership. Thanks to this close collaboration, innovative and cost-effective solutions can be developed for needs of all kinds. Safety first does not start in the field but already at the desk.



Railway Contactor RLC20

Metro Trains Melbourne operates a fleet of 420 three-car train sets on 869 kilometres (540 mi) of track. There are sixteen regular service train lines and one special events train line. The train fleet travels over 30 million kilometres and provides more than 228 million customer boardings each year.

Metro Trains Melbourne is also responsible for 218 railway stations and employs a workforce of 3,500 rail professionals including train drivers, mechanical and electrical engineers, network operations specialists and customer service representatives.



# MEASURING AND MONITORING WITH THE COMATRELECO FAMILY OF MEASURING DEVICES

'Energy measurement' is a buzzword today, and a key concern of many professional institutions. That's fully understandable – because the benefits from the data obtained make a considerable contribution to optimising systems and resources. A precise energy measuring device records and documents energy needs. Targeted initiatives can optimise network loads and decrease operating costs.

Current and voltage monitoring relays are being used not only to protect systems and persons, but also in process management. ComatReleco measuring devices are the perfect support for users' needs in the field, right up to supervisory and management level.

## Base level: MBx devices for everyday use

Efficient assembly plus quick start-up and maximum system availability – these are our prime concerns with this series. The voltage, current and motor temperature monitoring relays of the MBx series are compact and user-friendly. The response threshold is set by means of one potentiometer, and the delay time (notification delay) is determined using

another. The easy-to-read, multicoloured status LED on the device ensures that information is displayed clearly. The market launch of this family of devices will take place in the fourth quarter of 2018. The first device of the series to become available will be the MBU voltage monitoring device.

## State level: MRx devices for demanding situations

The much-loved MR series is the established standard in the field of high-quality monitoring relays for voltage, electricity, phase failure and other values in AC and DC circuits. The devices are available in one- and three-phase designs. The one-phase device monitors one measurement variable, while the three-phase MR allows two measurement variables to be monitored simultaneously and assigned to one of the two separately configurable relay outputs (6A/250V). The status of the measurement variables is displayed on clearly visible LEDs. The contrast-rich display makes for easy reading of the current measurement values. The device is configured using an easy-to-understand menu, which has been designed so that it is impossible to forget any of the many different settings. The user parameters are saved in such a way as to be proof against power cuts. The devices have permanent self-diagnosis systems. This ensures that an alarm is always triggered in the case of a defect.



## High level: MRE devices also measure and communicate via fieldbus

The MRE-44S/DC24V is a compact energy-measuring device for high-precision recording of all electrical variables. As a result of the high accuracy grade (current 0.1, voltage 0.05) and numerous features that can be freely enabled – such as an expansion of the grid frequency range from 15 Hz to 400 Hz, a complete power quality analysis and the analysis of harmonics up to 50 kHz – it can be used flexibly for nearly all measuring tasks related to electrical infrastructure in industrial settings as well as office and administrative buildings. The integrated web server allows for the MRE to be configured manageably and in relation to the application with a few clicks. The measuring circuit data are output directly into the SPS or control system via the integrated ethernet interface (TCP/IP modbus) or RS-485

interface (RTU modbus). The data logger, available as an optional extra, displays the measuring circuit data of several MREs and makes it possible to create long-term analyses and evaluations. A wide range of different transformers is available for current measurement, with various degrees of accuracy and corresponding transformation ratios.

Based on a modern architecture, this device is ideally suited for implementing customer-specific requirements – whether they take the form of integrated user software or expanded fieldbus interfaces.

## Overview of the ComatReleco family of devices

<b>High level</b> <b>High-precision Measuring</b>	<b>MRE</b> <b>Energy</b>			Programmable functionality with configurable parameters. <b>Commissioning:</b> Ethernet interface + web server
<b>State level</b> <b>Advanced monitoring</b>	<b>MRU</b> <b>Voltage</b>	<b>MRI</b> <b>Current</b>	<b>MRM</b> <b>Multi</b>	Programmable functionality with configurable parameters. <b>Commissioning:</b> display + keys
<b>Base level</b> <b>Basic monitoring</b>	<b>MBU</b> <b>Voltage</b>	<b>MBI</b> <b>Current</b>	<b>MBT</b> <b>Temperature</b>	Fixed functionality with configurable parameters. <b>Commissioning:</b> Infinitely variable potentiometer



23 AND 24 MAY 2018  
BERNEXPO, BERN  
VISIT US AND TRY YOUR LUCK ON THE SLOT MACHINE!

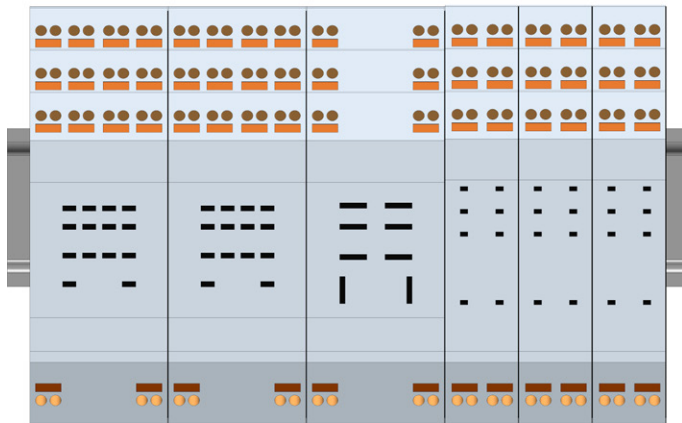
# ELECTRO-T&C

# WORLD-CLASS – THE SPACE-SAVING PUSH-IN SOCKET BY COMATRELECO

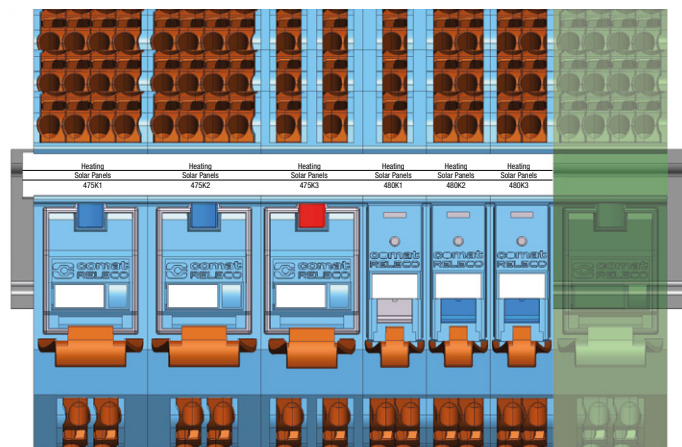
Enormous pressure in the field where project costs are concerned call for an increase in efficiency in switchgear construction. But what exactly does efficiency mean in switchgear construction? At ComatReleco, we follow two primary goals. We focus on the technical properties as well as the added value achievable for

**Family:** The new relay sockets from ComatReleco form a family. All relay sockets can be combined with each other. The Socket Labeling is consistent, the uniform bridges connect potentials and the functional modules bring intelligence into the relay application. In addition to timer modules, protective and suppression modules are also available. The optional accessories have been reduced to a few components which can be used with all relay sockets.

**Design:** The new family of relay sockets is based on an identical design. The relay sockets of the type series C7/C9 and C10/C12 have for themselves the same size. Components which match visually on the mounting rail also fit in the cabinet where size is concerned. The sockets have practically the same width as the relays themselves. Compared to the competition, the vertical configuration of the connection cages results in at least a 20% reduction in width and total surface of the socket.



At least 20% smaller than comparable competing products in the field.

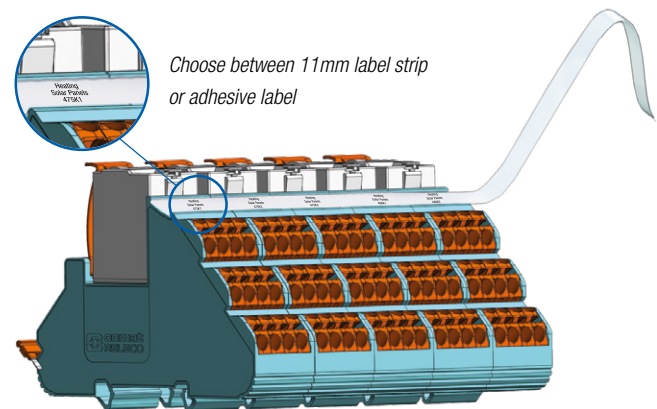


Coloured manual actuator for rapid identification of control voltage.

**Push-In connection technology:** The ComatReleco PushIn connection technology makes it possible to connect solid conductors as well as stranded wire. Solid conductors in the form of wire or stranded wire with ferrule terminals are inserted without tools. For connecting fine wires or stranded wire without pre-handling of the conductor, the contact

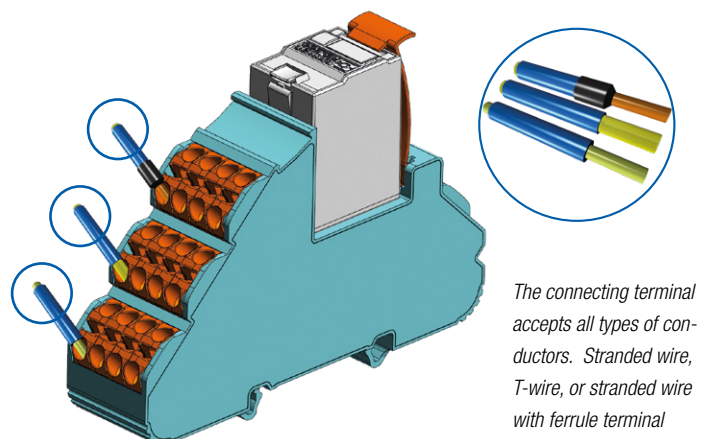
cavity needs to be opened with a commercially available screwdriver. The tool entry fixture is also designed for the contacting of test and measurement devices. With this connection technology, a significant amount of time can be saved when performing wiring. The holding and pull-out force correspond to the respective cross-section of the conductor inserted. Thanks to the vertical configuration of the connection cages, two independent conductor terminals are available per pole. These connection cages are compatible with conductor cross sections ranging from 0.25mm<sup>2</sup> to 1.5mm<sup>2</sup>. Hence, the patented connection solution by ComatReleco is also an excellent choice when using wiring robots to connect the relay sockets.

**Label strips:** The relay socket family by ComatReleco also allows for the use of WAGO label strips, which have been available on the market for several years. With the WAGO smartSCRIPT software, you can individually tailor the label strips to your needs. The necessary infrastructure is generally already available from the switchgear manufacturer. Labelling components in the switch cabinets has never been faster and more straightforward.



**Functional modules:** Whether it is product handling or functionality — with the functional modules, you get even more added value. Our industrial relays with integrated "Auto - On - Pulse" manual controls have led the market for years and offer advantages during maintenance and servicing. By expanding them with timer modules on the socket, these relays become intelligent, and can independently manage simple control tasks. Just as before, connectible suppression devices are indispensable for functional safety as well as the longevity of the contacts.

**Wiring accessories:** These optional accessories further simplify handling and logistics costs. A jumper for connecting identical potentials and a staggered jumper for connecting the reference potentials between the sockets for control and power relays round off the optimal handling of this socket family.



Follow us!

