



Relay couplers MICROSERIES, PLUGSERIES, RIDERSERIES

Product Information

Relay couplers

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Weidmüller's world of relay couplers

Switching, amplifying and multiplying Weidmüller's relay couplers give their all!

Module for module: first class quality!

Weidmüller's relay couplers enable interference-free and non-interacting signal transmissions in industrial automation concepts. Quickly mounted, they are compact and can be integrated in the tightest of spaces. Weidmüller's relay couplers guarantee:

- Easy mounting by simply snapping onto the mounting rail
- Protective separation of input and output circuits by adherence to specified insulation voltage
- Simultaneous switching of several loads
- Error-free switching of varying loads
- Reliable coupling of different voltages and currents between the input and output circuits
- Power amplification

For each and every problem: a solution!

This extensive spectrum of performance features means that Weidmüller's relay couplers are particularly suitable for isolating and conditioning of potentials as well as for multiplying signals in automation engineering. The main emphasis is placed on sub-assemblies that couple signals potential-free between the field and the control levels. Based on a wide platform of housings, Weidmüller has the optimum module for every application. Three types of relay coupler modules from Weidmüller have become firmly established in automation engineering:

- Slim measuring and monitoring relays
- Compact power relays
- Proven industrial relays



RSS - Page 16

Slim measuring and monitoring relays: the space savers!

Weidmüller's RSS measuring and monitoring relays take up very little space and their design makes them ideal for conditioning and galvanically isolating signals between the field and the controls. Thanks to the clearance and creepage distance values attained, these 'space savers' can also be utilized for sub-assemblies with protective separation. The contact material and design enable switching of small to medium-sized loads up to 6A @ 24 V DC or 230 V AC.



RCL - Page 24

Compact power relays: the all-rounders!

Weidmüller's RCL power relays are always suitable for universal and optimum utilization when reliable isolation between the input and output is essential. Together with their robust mechanical features, their excellent contact characteristics enable loads up to 16 A @ 24 V DC or 230 V AC to be switched. There are two change-over versions available to duplicate signals. Due to their special design, these 'all-rounders' prevent contact burn due to inductive loads – gold contacts ensure that even small loads such as measurement signals can be reliably switched.



RCI - Page 34

The tough ones for industry!

The new **Weidmüller RCI power relays** were designed for use in industrial applications. Besides their outstanding contact characteristics (these relays can switch power supplies up to 16 A @ 24 V DC or 230 V AC), the robust pins of these relays are ideal for use on plug-in bases. The optional integral upstream protective circuit and test button emphasise the industrial nature of these relays. Two changeover versions can be used for duplicating signals.



RCM - Page 44

Proven industrial relays: the multi-talented relays!

Weidmüller's RCM industrial relays offer an extensive range of options: up to four change-over contacts are available to multiply signals. In addition, the contacts can be mechanically operated by means of a lockable test button to simulate switching statuses during commissioning procedures. To enable monitoring of the contact float, these 'multi-talented' relays are equipped with a mechanical status indicator – optional LED units are

Weidmüller: the connection technology specialist!

Suitable for mounting onto mounting rails, Weidmüller's relay sockets offer the optimum connection technique for both mechanical and systems engineering – optimised to suit the required performance capacity and the expected application.



MICROSERIES - Page 12

The MICROSERIES range integrates the product features of **Weidmüller's RSS measuring and monitoring relays** into the world of terminal blocks. At the same time, the user is able to rely on the specific characteristics of the terminal blocks: he neither has to do without the freedom to choose the connection technique, pluggable cross-connections, universal marking solutions nor does he have to forego the typical space-saving features that relays offer!



PLUGSERIES - Page 18

Proven product characteristics from the world of connection technology in combination with the performance of **Weidmüller's power relays RCL**: all presented in the PLUGSERIES range of products. The pluggable cross-connection ZQV enables rapid and simple bridging of potentials in both inputs and outputs, in addition to offering universal marking solutions. As well as the free choice of connection technique, it is the housing material Wemid that makes the PLUGSERIES such a unique product.



RIDERSERIES RCI - Page 30

The RIDERSERIES represents the successful integration of the new **Weidmüller RCI power relays**: relays with integral electronics, optional upstream protective circuits and fixing clips based on a modular design – and pluggable! This series conforms to the international standard. Produced to a compact design, they are sure winners thanks to the proven connection technology (either screw or Push In systems).



RIDERSERIES RCM - Page 40

This RIDERSERIES range is also available in combination with **Weidmüller's industrial relay RCM** – it then offers characteristics comparable with Weidmüller's power relay RCL: equally modular in design, these couplers are optionally available with screw or tension clamp connections and meet the required standard.

Relay couplers – an overview

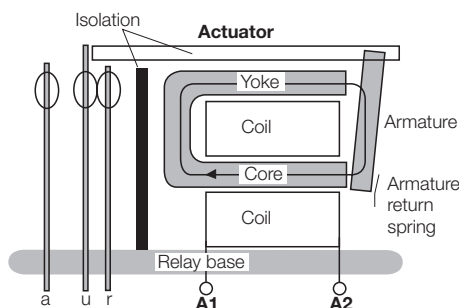
Historical background

The term 'relay' was originally used for a station where stagecoaches were able to change their tired horses for fresh ones. The term 'relay' was given a totally different meaning by the English physicist Charles Wheatstone (1802–1875). In Wheatstone's times, departing trains were signalled by a ringing bell at the next railway station up the line.

This was achieved by connecting a battery in the first station to a bell in the second. However, as the railway stations were generally several kilometres apart the power arriving at the second station was often insufficient to ring the bell. Wheatstone invented a switchgear apparatus that was installed at the second railway station. This continued to function even with low power supply levels. The switchgear apparatus switched a second electrical circuit that actuated the bell. That was the birth of the electromagnetic relay.

How a relay functions

A relay is an electromagnetic switch comprising two galvanically isolated circuits. Firstly the control circuit and secondly the open circuit with the normally open contact. As soon as the control circuit is energised, the coil creates a magnetic field in the core/yoke and attracts the armature. The actuator now actuates the switch at the output, the normally open contact (make contact) closes and the normally closed contact (break contact) opens. When the control circuit is turned off, the magnetic field diminishes and the return spring returns the armature to its initial position. The actuator moves the normally open (make contact) back to its normal position, the normally open contact opens, the normally closed contact (break contact) closes.



Consequently, with low power input – battery power for example – a relay provides the option of switching heavy loads as well as being able to serve as a switching amplifier. Thanks to the isolation between the input and output, relays are also suitable for providing separation when the power of the control and the open circuits differ. Equipped with several NO (make) contacts, a relay can also be utilised for multiplying signals.

From relay to relay coupler

There are two alternative methods that make a relay coupler suitable for use in industrial applications: mounting onto a PCB – in combination with the corresponding assembly techniques and circuitry – or plugging onto a specially designed relay base.

Generally, the design and rating data determine if a relay coupler is or is not suitable for a particular application.

For example, relay couplers with plugged on relays are only partly suitable for use in applications subjected to heavy vibrations. In this case, relay couplers with soldered relays should be preferred. Low, compact designs such as those provided by the RIDERSERIES are utilised in small consumer units where the overall available height is limited. Conversely, the compact design of the MICROSERIES helps to save space in electrical cabinets.

Protective separation

It is essential that all electrical equipment required to provide protective separation be designed in such a manner that the insulation cannot be impaired, for example by mechanical errors. If a mechanical error occurs in a relay (bent soldering pin, broken winding wire or broken spring), 'protective separation' must be guaranteed. Relays are specified and tested in accordance with EN 61810-1. However, the standard makes no reference to EN 50178 (Electronic equipment for use in power installations); equally no definition is given for the term 'protective separation'. Things are made worse by the fact that different measurement conditions are given for the test voltages stipulated for relays.

As a consequence, the test voltages cannot be applied to the standards EN 50178 or EN 61140. And because the user is nevertheless increasingly deploying electrical equipment that is supposed to guarantee 'protective separation', a large number of manufacturers of relays point to the EN 61140 and carry out the tests accordingly. And of course the values are then 'protective separation' conform.

Standards

The following individual standards are applied in accordance with the corresponding requirements:

Relay couplers

- DIN EN 50178:
Electronic equipment for use in power installations

Relays

- DIN EN 61810-1:
Electromechanical elementary relays (electromechanical elementary relays without specified time response characteristics)
Part 1: General and safety requirements

Relay base

- DIN EN 61984
Connectors - Safety requirements and tests

EMC – Electromagnetic compatibility

DIN EN 61000-6-1

Part 6-1: Generic standards; Immunity for residential, commercial and light-industrial environments

DIN EN 61000-6-2

Part 6-2: Generic standards - Immunity for industrial environments

DIN EN 61000-6-3

Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments

DIN EN 61000-6-4

Part 6-4: Generic standards - Emission standard for industrial environments

Coil suppression circuit

In DC circuits, the inductance of the relay coil generates a release voltage when de-energised that is capable of damaging or destroying the connected control electronics. A free wheel diode connected in parallel to the coil limits the release voltage, protects the control electronics and prevents induction of the cut-off voltage to other signal lines.

Large circuits or long cable runs are subjected to increased electrical and electromechanical interference and damage. Malfunctions or even total failure of the relay module can result. The radiated interference, and not to forget leakage currents emanating from trigger modules, can also mean that a triggered relay does not drop out. As standards specify that the drop-out voltage is limited to about 15 percent of the rated voltage, the interference voltage generated can be sufficient to prevent the relay from opening. One way of resolving this problem is to connect an RC combination line side to filter out disturbances and provide capacitive suppression of interference voltages.

MICROSERIES products are supplied ex works with these protective circuits already integrated in the electronics; for the PLUGSERIES and RIDERSERIES these are available as modular series electronics.

The same principles apply as with contact protection circuits.

Relay couplers – an overview

Switching large and small capacities

Basically, the reliability of the contacts in a relay reaches a maximum at a medium current load thanks to the continuous self-cleaning effect. As the contact load increases and hence leads to more severe erosion of the contacts, the switching reliability decreases with an increasing number of switching operations. This reduces the service life of the contacts. Although at very low loads the minimal erosion of the contacts does raise the service life more or less to the level of the mechanical service life, the lack of a self-cleaning effect contributes to a lower contact reliability.

Reliable contact at low currents, especially when only small voltages are involved as well, depends on the choice of contact material. Contacts of silver-nickel, which is standard for the majority of Weidmüller relays, are generally suitable for currents of approx. 10 mA and higher. Such large-surface contacts can switch both low and high currents. However, at low currents occasional failures can occur due to erosion and the lack of the self-cleaning effect. The higher the current, the more reliable is the contact – thanks to the self-cleaning. Silver-nickel is suitable as a contact material for low currents/voltages. It provides, however, only **moderate switching reliability**. If this is acceptable, then conventional standard relays represent an inexpensive solution.

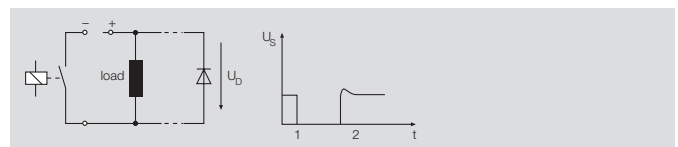
For applications that call for **improved contact reliability** or low currents/voltages, conventional relays with hard-plated gold contacts are preferable because they do not erode and therefore operate more reliably.

If **maximum switching reliability** is necessary, especially for low currents/voltages, a relay should not be your first choice. In these instances Weidmüller advises the use of optocouplers. Wear and abrasion caused by mechanical movements are non-existent in optocouplers.

Protective circuits for the contacts

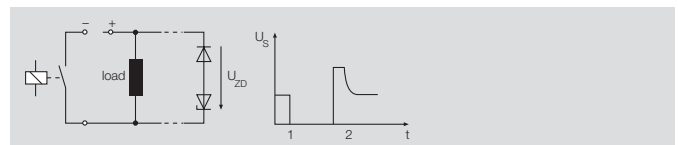
The switching of inductive or capacitive loads produces switching sparks which can influence the electrical service life of the relays. The following protective circuits for the contacts reduce contact wear:

Diode



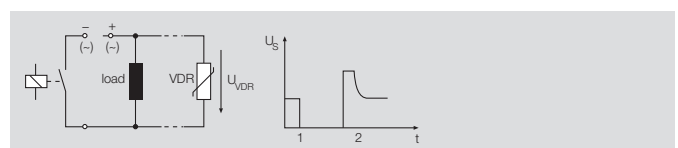
- Advantage: Can be used for all capacities, low overvoltage, minimum space required, low price
 Disadvantage: Very long release delay

Diode and Z-diode



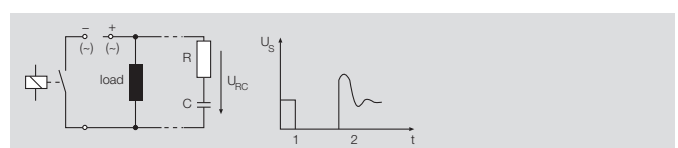
- Advantage: Low overvoltage (defined by Z-diode), short release delay
 Disadvantage: Cannot be used for large capacities

Varistor



- Advantage: Low overvoltage, short release delay
 Disadvantage: High current load on the contacts when switching on; more complicated and expensive at greater capacities

RC combination



- Advantage: Short release delay, low price
 Disadvantage: Cannot be used for all operating voltages and capacities

U_s = Voltage progression

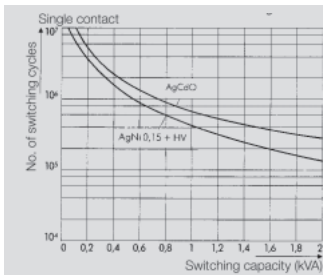
1 = Closing

2 = Opening

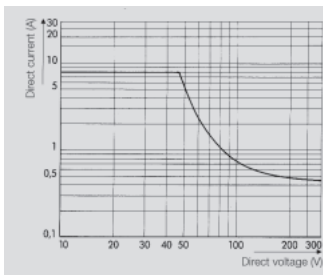
Principal characteristics of relay contacts

Although every relay contact has its own characteristics, the performance curves are very similar in terms of shape, but not in terms of the actual values. The examples below show curves for

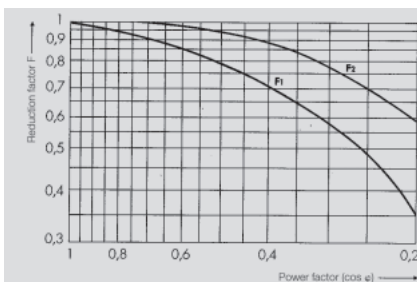
- contact lifetime (number of make-break operations plotted against make-break capacity)
- DC limit curve (direct current plotted against direct voltage)
- reduction factor for inductive load (reduction factor plotted against $\cos \varphi$)



Contact lifetime for ohmic load



DC limit curve for ohmic load



Reduction factor for inductive load $\cos \varphi < 1$

Eff. make-break op. = make-break operations for $(\cos \varphi = 1) \times$

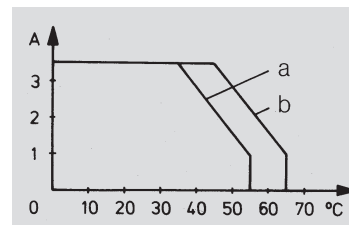
Derating curve

The transition resistance of the relay contacts is a key factor contributing to temperature increase inside the relay modules. This relationship is illustrated by a derating curve, defined as the function of the permissible current plotted against the ambient temperature.

The permissible current (curve a) is determined for the following operating conditions:

- Continuous operation
- Rated input voltage + 10 percent
- Several relay modules working under load, mounted horizontally in rows on mounting rail, without any spacing

If the modules are mounted with a spacing > 20 mm, this results in a higher current load (curve b). Curve b also shows the maximum values for switching or short-time operation when mounted horizontally.



Relay couplers – an overview

Contact materials

AgNi Au (silver-nickel hard gold plated)

For dry loads, measuring and switching circuits, control inputs (1 mV – 10 V, 0.1 mA – 100 mA).

AgNi 0.15 (fine-grain silver)

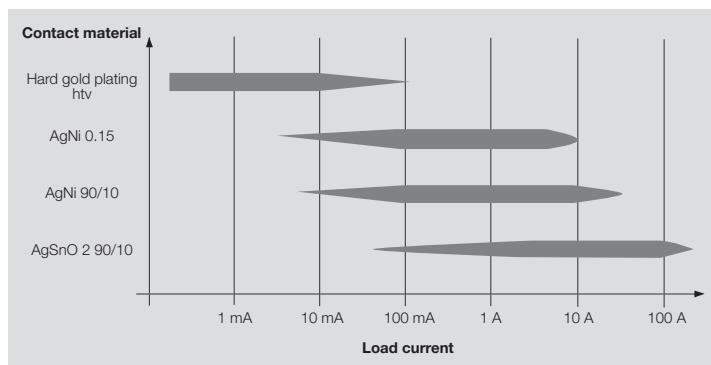
Suitable for low to medium loads, AC and DC loads, resistive and inductive (solenoid valves, fans, heaters); not suitable for high inrush currents.

AgNi 90/10 (silver-nickel)

Suitable for all loads, constantly low contact-circuit resistances in the low load range, AC and DC loads, resistive and inductive (solenoid valves, fans, heaters); not suitable for capacitive inrush currents.

AgSnO₂ 90/10 (silver-tin oxide)

Suitable for all loads. Well suited to higher loads. Particularly well suited to high inrush currents with short rise times (lamp loads, capacitive loads, fluorescent tubes, switch-mode power supplies, etc.). Well suited to resistive, inductive and capacitive DC applications due to low material transport.



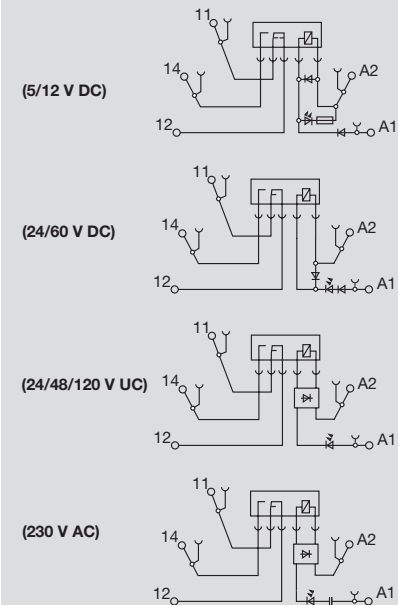
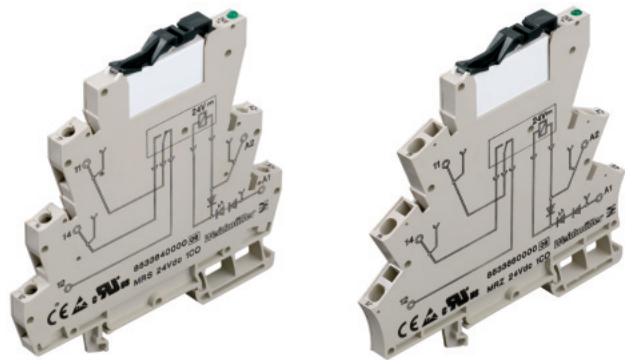
Definition of technical data

Input Circuit	
Nominal voltage [V]	Reference voltage at which the relay coupler operates; typical input voltages = > 5 V DC, 12, 24, 48, 60, 115, 230 AC/DC
Nominal current [mA]	Input voltage and input resistance; input resistance = > coil resistance + resistance of triggering device (R, LED, GL ...)
Nominal power [W/VA]	Input voltage x input current DC/AC with tolerance $\pm 10\%$ or $+5/-15\%$, typical range for relay coupler 250 mW ... 1 W or 0.4 VA ... 1.2 VA
Response voltage [V]	Smallest input voltage required for the relay coupler to respond ($T_u = 293\text{ K}$)
Pick-up current [mA]	Smallest input current at which the relay switches from normal to operating position ($T_u = 293\text{ K}$)
Pick-up power [W/VA]	Product of response voltage and pick-up current
Drop-out voltage [V]	Voltage level at which the relay reliably drops out
Drop-out current [mA]	Input current at which the relay reliably drops out
Output Circuit	
Max. switching voltage [V]	Max. voltage that can be applied to the relay contact
Making current [A]	The current allowed to flow for max. 4 seconds after the relay contact closes
Continuous current [A]	Current allowed to flow continuously after the contact closes
Switching power [W/VA]	Product of output voltage and making current for resistive, inductive or capacitive load
Min. switching power [μW]	Smallest power that can be switched via the contact
Service life	Number of switching operations until the contact fails
	– mechanical = >without electrical load
	– electrical = > under resistive or inductive AC/DC load
Response time [ms]	Time until contact closes/opens after switching the excitation voltage
Drop-out time [ms]	Time until contact closes/opens after opening the excitation current circuit
Switching frequency [Hz]	Switching operations per second in pulse duty factor 1 : 2 ($t_{on} = t_{off}$)
Dielectric strength [kV]	Max. test voltage between input and output circuits that does not result in a discharge
Protective separation	Relay couplers to EN 50178 and VDE 0106 part 101

1 change-over contact
AC/DC/UC coil

Module can be used as an universal interface between the controller and the actuator to switch small and medium-sized loads.

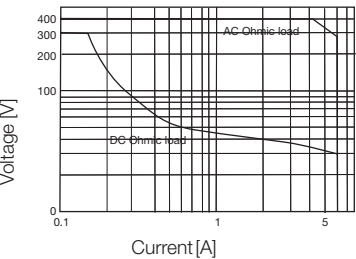
- Relay interchangeable, can also be exchanged for an optocoupler
- 6.1 mm wide
- Pluggable cross-connection at input and output minimises the wiring workload.



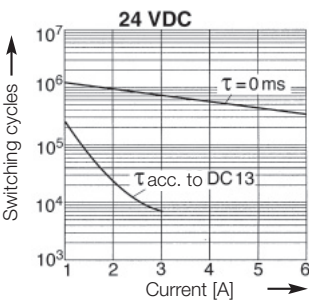
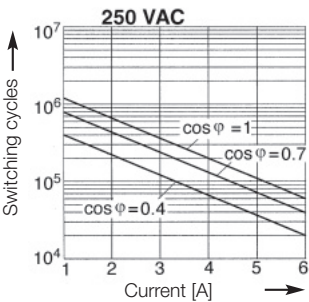
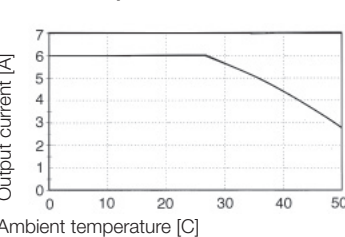
Output		
max. switching voltage AC/Continuous current		250 V/6 A
min. switching power		12 V / 100 mA
Response time / Drop-out time		6.2ms/3.9ms
Contact base material		AgSnO
Mechanical endurance		20x10 ⁶ switching cycles
max. switching frequency at rated load		0.1 Hz
Rated data		
Status indicator/Free wheel diode		green LED/Yes
Reverse pol. prot		available
Operating temperature		-25 °C...+50 °C
Storage temperature		-40 °C...+60 °C
Humidity		40°C/93% RH, no condensation
Approvals		CE; cURus;
Insulation coordination (EN 50178)		
Standards		EN 50178
Rated voltage		300 V
Impulse withstand voltage		4 kV
Creepage and clearance path input - output		≥ 5,5 mm
Overvoltage category		III
Pollution severity		2
Protective separation to VDE 0106 part 101		yes
Dimensions		Screw connection
Clamping range (rating- / min. / max.) mm ²		2.5 / 0.5 / 4
Length x width x height mm		93 / 6.1 / 92
		Tension clamp connection
		1.5 / 0.5 / 2.5
		94 / 6.1 / 91
Note		
Cross-connectors and markers - see MICROSERIES accessories		

Applications

Limit curve



Current-Temperature rise curve



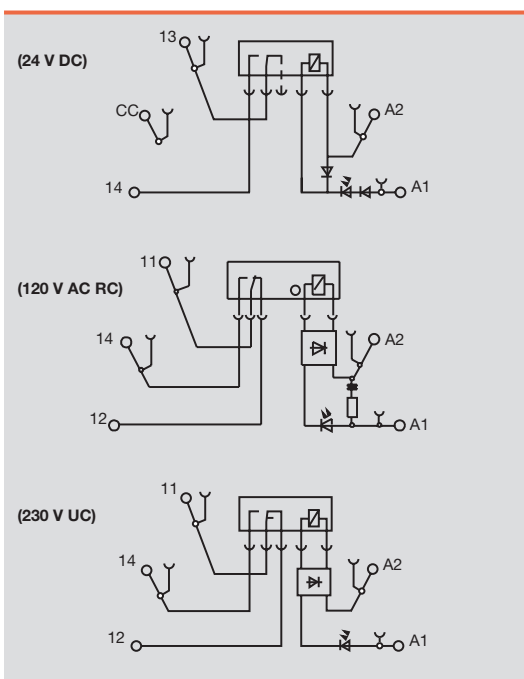
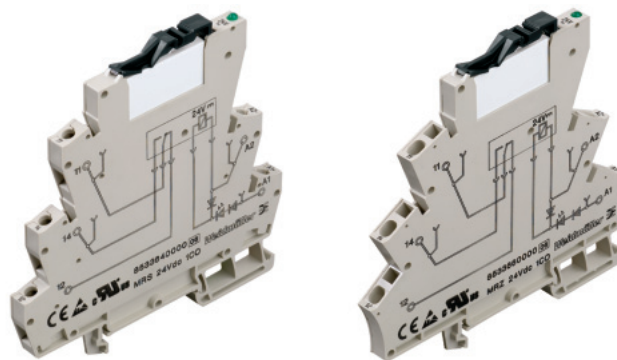
1 change-over contact
AC/DC/UC coil

Ordering data		5 V DC 1CO	12 VDC 1CO	24 V DC 1CO	24 V UC 1CO
Input					
Rated voltage		5 V DC $\pm 20\%$	12 V DC $\pm 20\%$	24 V DC $\pm 20\%$	24 V UC $\pm 10\%$
Rated current AC					11 mA
Rated current DC		38.5 mA	17 mA	6.6mA	6.4 mA
Power rating		193 mW	210 mW	160 mW	154 mW
AC Response/dropout Volt					15.8V/7V
DC Response/dropout Volt		3.2V/1.6V	6.4V/ 2.5V	15.4V/6.5V	15.8V/7V
AC pickup/dropout current					3.6mA/1.3mA
DC pickup/dropout current		21.6mA/8mA	8.4mA/2.4mA	4mA/1.2mA	3.6mA/1.3mA
Ordering data					
Complete module					
Screw connection	Type	MRS 5Vdc 1CO	MRS 12Vdc 1CO	MRS 24Vdc 1CO	MRS 24Vuc 1CO
	Order No.	8556080000	8556070000	8533640000	8556050000
Tension spring connection	Type	MRZ 5Vdc 1CO	MRZ 12Vdc 1CO	MRZ 24VDC 1CO	MRZ 24Vuc 1CO
	Order No.	8556150000	8556140000	8533660000	8556120000
Ordering data					
Spare relay (pluggable)					
	Type	RSS113005 05Vdc-Rel1U	RSS113012 12Vdc-Rel1U	RSS113024 24Vdc-Rel1U	RSS113024 24Vdc-Rel1U
	Order No.	4061580000	4061610000	4060120000	4060120000
Note					

Ordering data		48 V UC 1CO	60 V DC 1CO	120 V UC 1CO	230 V AC 1CO
Input					
Rated voltage		48 V UC $\pm 10\%$	60 V DC $\pm 20\%$	120 V UC + 10 %/ -15 %	230 V AC $\pm 10\%$
Rated current AC		5 mA		3.5 mA	7.6 mA
Rated current DC		4 mA	3.3 mA	3.5 mA	
Power rating		190 mW	200 mW	0.42 VA	1.75 VA
AC Response/dropout Volt		29V/11V		71V/22V	103V/49V
DC Response/dropout Volt		29V/11V	35V/11V	71V/22V	
AC pickup/dropout current		2.2mA/1.3mA		1.8mA/0.5mA	5mA/2.5mA
DC pickup/dropout current		2.2mA/1.3mA	1.6mA/0.6mA	1.8mA/0.5mA	
Ordering data					
Complete module					
Screw connection	Type	MRS 48Vuc 1CO	MRS 60Vdc 1CO	MRS 120Vuc 1CO	MRS 230Vac 1CO
	Order No.	8556040000	8556060000	8556030000	8556020000
Tension spring connection	Type	MRZ 48Vuc 1CO	MRZ 60Vdc 1CO	MRZ 120Vuc 1CO	MRZ 230Vac 1CO
	Order No.	8556110000	8556130000	8556100000	8556090000
Ordering data					
Spare relay (pluggable)					
	Type	RSS113048 48Vdc-Rel1U	RSS113060 60Vdc-Rel1U	RSS113060 60Vdc-Rel1U	RSS113024 24Vdc-Rel1U
	Order No.	4061620000	4061630000	4061630000	4060120000
Note					

1 NO contact special versions

- 24 V DC actuator version:
Bridgeable, floating connection for direct connection of actuators at the output
- 120 V AC RC version:
RC circuit at the input guarantees safe switching thresholds, e.g. for leakage currents on the control side
- 230 V UC version:
input can also be wired to DC signals



Output	
max. switching voltage AC/Continuous current	250 V/6 A
min. switching power	12 V / 10 mA
Response time / Drop-out time	6.6 ms/5.8 ms
Contact base material	AgSnO
Mechanical endurance	20x10 ⁶ switching cycles
max. switching frequency at rated load	0.1 Hz
Rated data	
Status indicator/Free wheel diode	green LED/Yes
Reverse pol. prot	available
Operating temperature	-25 °C...+55 °C
Storage temperature	-40 °C...+60 °C
Humidity	40°C/93% RH, no condensation
Approvals	CE; cURus;
Insulation coordination (EN 50178)	
Standards	EN 50178
Rated voltage	300 V
Impulse withstand voltage	4 kV (1.2/50 µs)
Creepage and clearance path input - output	≥ 5,5 mm
Overvoltage category	III
Pollution severity	2
Protective separation to VDE 0106 part 101	
Dimensions	
Clamping range (rating- / min. / max.)	mm ² 2.5 / 0.5 / 4
Length x width x height	mm 93 / 6.1 / 92
Note	
Cross-connectors and markers - see MICROSERIES accessories	

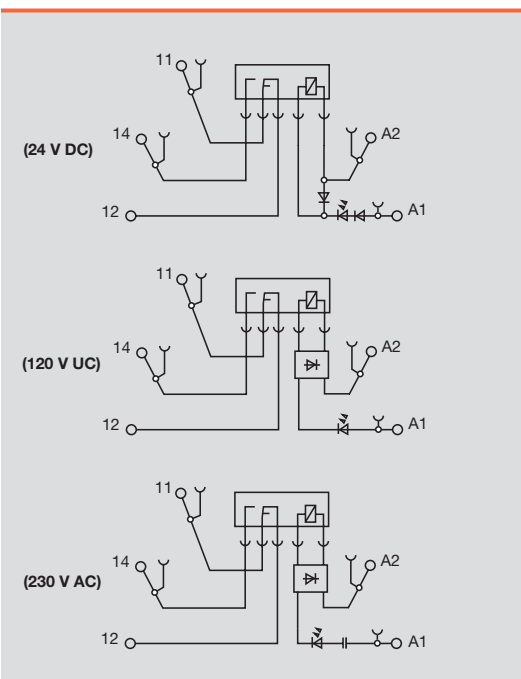
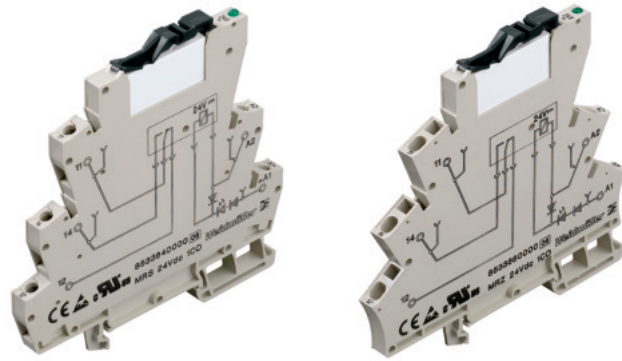
Ordering data

Input		24 V DC ACT	120 V AC 1CO RC	230 V UC 1CO	
Rated voltage		24 V DC ±20 %	120 V AC + 10 %/ -15 %	230 V UC +10 % / -15 %	
Rated current AC			7 mA	3,5 mA	
Rated current DC		6,6 mA		2,9 mA	
Power rating		160 mW	0,84 VA	0,8 VA / 660 mW	
AC Response/dropout Volt			79 V / 65 V	146 V / 124 V	
DC Response/dropout Volt		15,4 V / 6,5 V		155 V / 115 V	
AC pickup/dropout current			4,5 mA / 3,7 mA	1,9 mA / 1,5 mA	
DC pickup/dropout current		4 mA / 1,2 mA		1,9 mA / 1,0 mA	
Ordering data Complete module					
Screw connection	Type	MRS 24Vdc ACT	MRS 120VUC 1CO RC	MRS 230VUC 1CO	
	Order No.	8660920000	8825970000	8825990000	
Tension clamp connection	Type	MRZ 24VDC ACT	MRZ 120VUC 1CO RC	MRZ 230VUC 1CO	
	Order No.	8660910000	8825960000	8825980000	
Ordering data Spare relay, pluggable					
	Type	RSS113024 24Vdc-Rel1U	RSS113060 60Vdc-Rel1U	RSS113060 60Vdc-Rel1U	
	Order No.	4060120000	4061630000	4061630000	
Note					

1 change-over contact with gold-plated contact AC/DC/UC coil

Module can be used as an universal interface between the controller and the actuator to switch small and medium-sized loads.

- Relay interchangeable, can also be exchanged for an optocoupler
- 6.1 mm wide
- Pluggable cross-connection at input and output minimises the wiring workload.



Output			
max. switching voltage AC/Continuous current	250 V/6 A		
min. switching power	12 V / 10 mA		
Response time / Drop-out time	6.6ms/5.8ms		
Contact base material	AgSnO 5µm Au		
Mechanical endurance	20x10 ⁶ switching cycles		
max. switching frequency at rated load	0.1 Hz		
Rated data			
Status indicator/Free wheel diode	green LED/Yes		
Reverse pol. prot	available		
Operating temperature	-25 °C...+50 °C		
Storage temperature	-40 °C...+60 °C		
Humidity	40°C/93% RH, no condensation		
Approvals	CE; cURus;		
Insulation coordination (EN 50178)			
Standards	EN 50178		
Rated voltage	300 V		
Impulse withstand voltage	4 kV		
Creepage and clearance path input - output	≥ 5,5 mm		
Overvoltage category	III		
Pollution severity	2		
Protective separation to VDE 0106 part 101	yes		
Dimensions			
Clamping range (rating- / min. / max.)	mm²	2.5 / 0.5 / 4	1.5 / 0.5 / 2.5
Length x width x height	mm	93 / 6.1 / 92	94 / 6.1 / 91
Note		Cross-connectors and markers - see MICROSERIES accessories	

Ordering data

Input	24 V DC 1CO Au	120 V UC 1CO Au	230 V AC 1CO Au	
Rated voltage	24 V DC ±20 %	120 V UC + 10 %/ -15 %	230 V AC ±10%	
Rated current AC		3.5mA ±15%	7.6mA	
Rated current DC	6.6 mA	3.5mA ±15%		
Power rating	160 mW	0.42 VA ±15%	1.75VA	
AC Response/dropout Volt		71 V/ 22 V	103V/49V	
DC Response/dropout Volt	15.4V/6.5V	71 V/ 22 V		
AC pickup/dropout current		1.8 mA/0.5 mA	5mA/2.5mA	
DC pickup/dropout current	4mA/1.2mA	1.8mA/0.5mA		

Ordering data Complete module

Screw connection	Type	24 V DC 1CO Au	120 V UC 1CO Au	230 V AC 1CO Au	
Order No.		8596060000	8652030000	8596050000	
Tension clamp connection	Type	24 V DC 1CO Au	120 V UC 1CO Au	230 V AC 1CO Au	
Order No.		8596080000	8652040000	8596070000	

Ordering data Spare relay, pluggable

Type	24 V DC 1CO Au	120 V UC 1CO Au	230 V AC 1CO Au	
Order No.	4061590000	4061600000	4061590000	

Note	24 V DC 1CO Au	120 V UC 1CO Au	230 V AC 1CO Au	

RSS Relays

1 change-over contact DC coil



Technical data

Number of contacts and type	1 change-over contact
Contact form	single
Switching current	6 A
Switching voltage / max. switching voltage	250 V AC / 400 V AC
Switching capacity	1500 VA
Contact material / recommended min. load	AgSnO ₂ 12 V, 100 mA AgSnO ₂ 5μ Au 12 V, 10 mA ¹⁾
Typical bounce time, NOC	1 ms
Typical bounce time, NCC	5 ms
Other data	
UL 94 flammability rating	V-0
Ambient temperature	-40 ... +85 °C
Max. switching frequency at nom. load / without load	6/1200 make-break operations per minute
Pick-up / drop-out time	5 / 2.5 ms
Bounce time, NOC / NCC	1.5 / 5 ms
Ingress protection class housing	IP 67

¹⁾ Recommended switching capacity: μW up to 0.25 W (depends on load characteristics), at 2.5 W the silver coating remains effective for about 20 000 make-break operations.

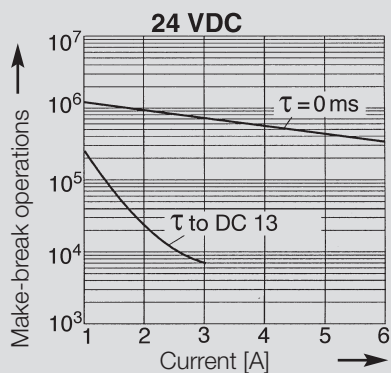
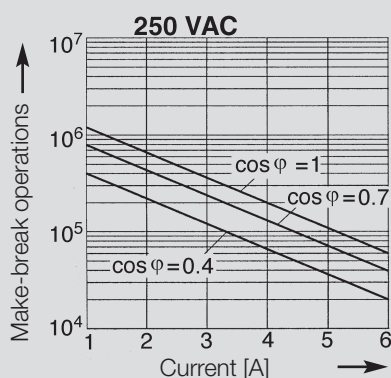
Ordering data

Type	Qty	Order No.
Coil voltage 5 V, 1 change-over contact	20	4061580000
Coil voltage 12 V, 1 change-over contact	20	4061610000
Coil voltage 24 V, 1 change-over contact	20	4060120000
Coil voltage 48 V, 1 change-over contact	20	4061620000
Coil voltage 60 V, 1 change-over contact	20	4061630000
Coil voltage 24 V, 1 change-over contact, 5μ Au ¹⁾	20	4061590000
Coil voltage 60 V, 1 change-over contact, 5μ Au ¹⁾	20	4061600000

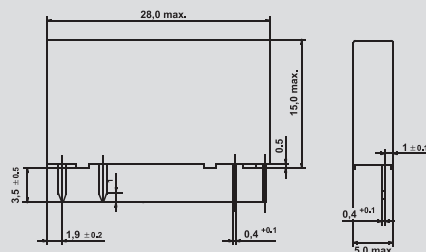
Type code for RSS relays

Type code	RSS				
Type	RIDER Signal Slim				
Model	1 Printing, vertical, waterproof				
Type of contact	1 1 Changeover contact, washable				
Contact material	2 AgSnO ₂ htv 3 AgSnO ₂				
Coil	005	5 V DC			
	012	12 V DC			
	024	24 V DC			
	048	48 V DC			
	060	60 V DC			

Contact life expectancy, material AgSnO₂



Dimensions



Accessories



Plug-in cross-connection

Type	No. of poles	Qty	Order No.
yellow			
ZQV 4N / 2 GE	2	60	1758250000
ZQV 4N / 3 GE	3	60	1762630000
ZQV 4N / 4 GE	4	60	1762620000
ZQV 4N / 10 GE	10	20	1758260000
ZQV 4N / 20 GE	20	20	1909020000
red			
ZQV 4N / 2 RT	2	60	1793950000
ZQV 4N / 3 RT	3	60	1793980000
ZQV 4N / 4 RT	4	60	1794010000
ZQV 4N / 10 RT	10	20	1794040000
ZQV 4N / 20 RT	20	20	1909150000
blue			
ZQV 4N / 2 BL	2	60	1793960000
ZQV 4N / 3 BL	3	60	1793990000
ZQV 4N / 4 BL	4	60	1794020000
ZQV 4N / 10 BL	10	20	1794050000
ZQV 4N / 20 BL	20	20	1909100000
black			
ZQV 4N / 2 SW	2	60	1793970000
ZQV 4N / 3 SW	3	60	1794000000
ZQV 4N / 4 SW	4	60	1794030000
ZQV 4N / 10 SW	10	20	1794060000
ZQV 4N / 20 SW	20	20	1909120000

General data – MICROSERIES

Technical data

Conductor		Tension spring connection	Screw connection
Solid H07V-U	mm ²	0.5 ... 2.5	0.5 ... 4.0
Stranded H07V-K	mm ²	0.5 ... 2.5	0.5 ... 2.5
"f" with wire end ferrules to DIN 46228-1	mm ²	0.5 ... 1.5	0.5 ... 1.5
"f" with wire end ferrules with plastic collar	mm ²	0.5 ... 1.5	0.5 ... 1.5
Max. clamping range	mm ²	0.13 ... 2.5	0.13 ... 4.0
Plug gauge to IEC 60947-1	size	A 2	A 3

General technical data

Nominal torque	-	0.6
Continuous current for 2-pole cross-connection	A	10
Continuous current for multi-pole cross-connection	A	10
Stripping length	mm	10
Ingress protection class	IP 20	IP 20
Housing material	Wemid	Wemid
UL 94 flammability rating	V-0	V-0
Nominal current	A	6
Nominal voltage	V	250

Other accessories

Type		Qty	Order No.
Base only			
MXZ 24VDC 1CO BASIS		10	8826000000
MXS 24VDC 1CO BASIS		10	8826010000
MXZ 120VUC 1CO BASIS		10	8826020000
MXS 120VUC 1CO BASIS		10	8826030000
MXZ 230VAC 1CO BASIS		10	8826040000
MXS 230VAC 1CO BASIS		10	8826050000
Markers			
WS 12/6	12 x 6 mm	200	1061160000
Labels, Lasermark			
LM MT 300 15/6 ge	484 labels/sheet	10	1686360000
Screwdriver			
SD 0.6 x 3.5 x 100		10	9008330000

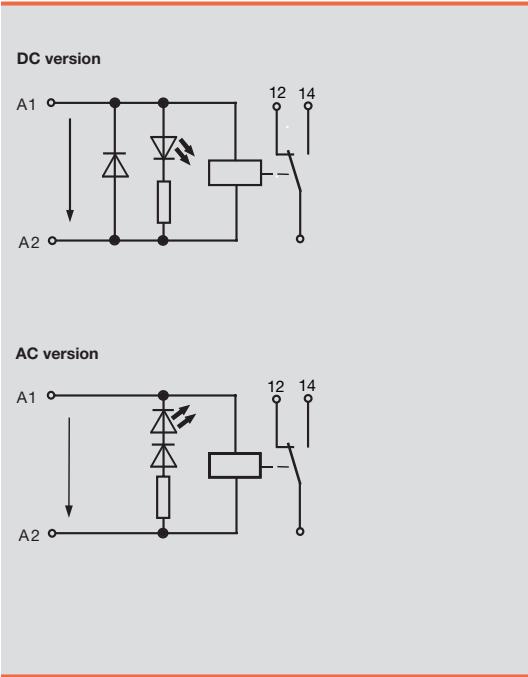
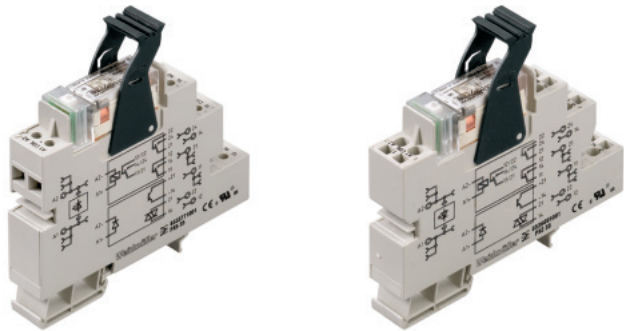
Dimensions

Tension clamp connection	Screw connection

1 change-over contact
AC/DC coil

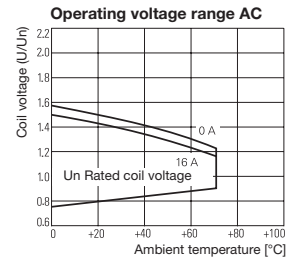
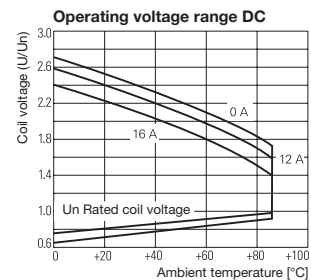
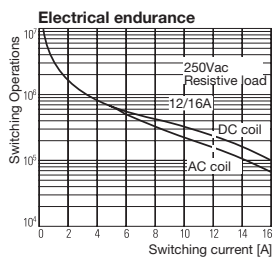
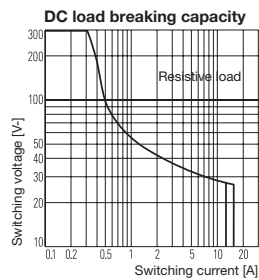
- Modular system comprising
- relay socket for rail mounting
 - LED indicator unit / RC combination
 - Retaining clip
 - plug-in relay

cross-section of coil connections
and relay changeover contacts by means of
plug-in cross-connection ZQV 2.5N



Output		
max. switching voltage AC/Continuous current	250 V/10 A	
min. switching power	10 V / 100 mA	
Response time / Drop-out time	5.8ms/6.9ms	
Contact base material	AgNi 90/10	
Mechanical endurance	30x10 ⁶ switching cycles	
max. switching frequency at rated load	0.1 Hz	
Rated data		
Status indicator/Free wheel diode	green LED/Yes	
Reverse pol. prot	available	
Operating temperature	-25 °C...+50 °C	
Storage temperature	-40 °C...+50 °C	
Humidity	40°C/93% RH, no condensation	
Approvals	CE;cURus;	
Insulation coordination (EN 50178)		
Standards	EN 50178	
Rated voltage	250 V	
Impulse withstand voltage	6 kV	
Creepage and clearance path input - output	> 8 mm	
Overvoltage category	III	
Pollution severity	2	
Protective separation to VDE 0106 part 101	yes	
Dimensions		
Clamping range (rating- / min. / max.)	mm ²	2.5 / 0.5 / 2.5
Length x width x height	mm	92 / 15.3 / 95
Note		
Cross-connectors and markers - see PLUGSERIES accessories		

Applications



1 change-over contact AC/DC coil

Ordering data

Input	12 V DC 1CO	24 V DC 1CO	115 V DC 1CO	24 V AC 1CO
Rated voltage	12 V DC $\pm 20\%$	24 V DC $\pm 10\%$	115 V DC $\pm 10\%$	24 V AC $\pm 10\%$
Rated current AC				32 mA
Rated current DC	33 mA	16 mA	3.5 mA	
Power rating	400 mW	400 mW	400 mW	0.75 VA
AC Response/dropout Volt				17V/3.6V
DC Response/dropout Volt	8.4V/1.2V	16.8 V / 2.4 V	76 V / 11 V	

Ordering data Complete module				
Screw connection Type	PRS 12Vdc LD 1CO	PRS 24Vdc LD 1CO	PRS 115Vdc LD 1CO	PRS 24Vac LD 1CO
Order No.	8536471001	8530621001	8536510000	8536530000
Tension spring connection Type	PRZ 12Vdc LD 1CO	PRZ 24Vdc LD 1CO	PRZ 115Vdc LD 1CO	PRZ 24Vac LD 1CO
Order No.	8536571001	8530691001	8536610000	8536651001
Ordering data Spare relay (pluggable)				
Type	RCL314012	RCL314024	RCL314110	RCL314524
Order No.	8693240000	8693260000	8821910000	8693500000
Note				

Ordering data

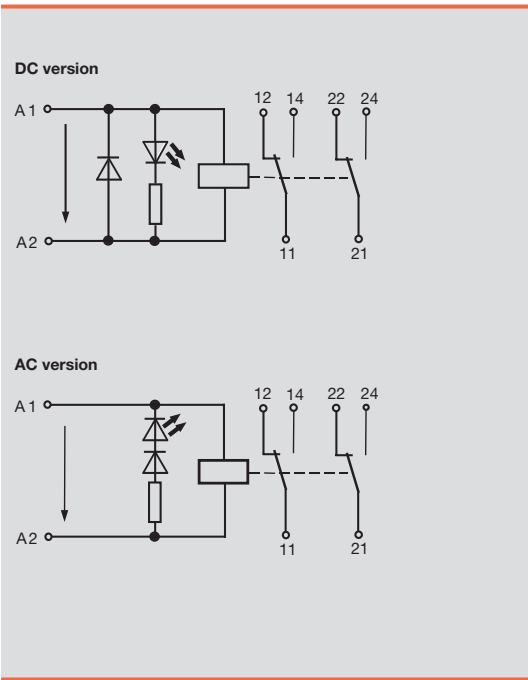
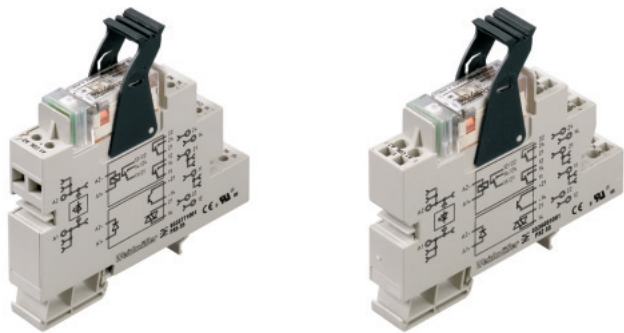
Input	120 V AC 1CO	230 V AC 1CO		
Rated voltage	120 V AC $\pm 10\%$	230 V AC $\pm 10\%$		
Rated current AC	6.6 mA	3.2 mA		
Rated current DC				
Power rating	0.75 VA	0.75 VA		
AC Response/dropout Volt	86.3 V / 17.3 V	171 V / 34 V		
DC Response/dropout Volt				

Ordering data Complete module				
Screw connection Type	PRS 120Vac LD 1CO	PRS 230Vac LD 1CO		
Order No.	8530641001	8530671001		
Tension spring connection Type	PRZ 120Vac LD 1CO	PRZ 230Vac LD 1CO		
Order No.	8530710000	8530731001		
Ordering data Spare relay (pluggable)				
Type	RCL314615	RCL314730		
Order No.	8693890000	8693320000		
Note				

2 change-over contacts
AC/DC coil

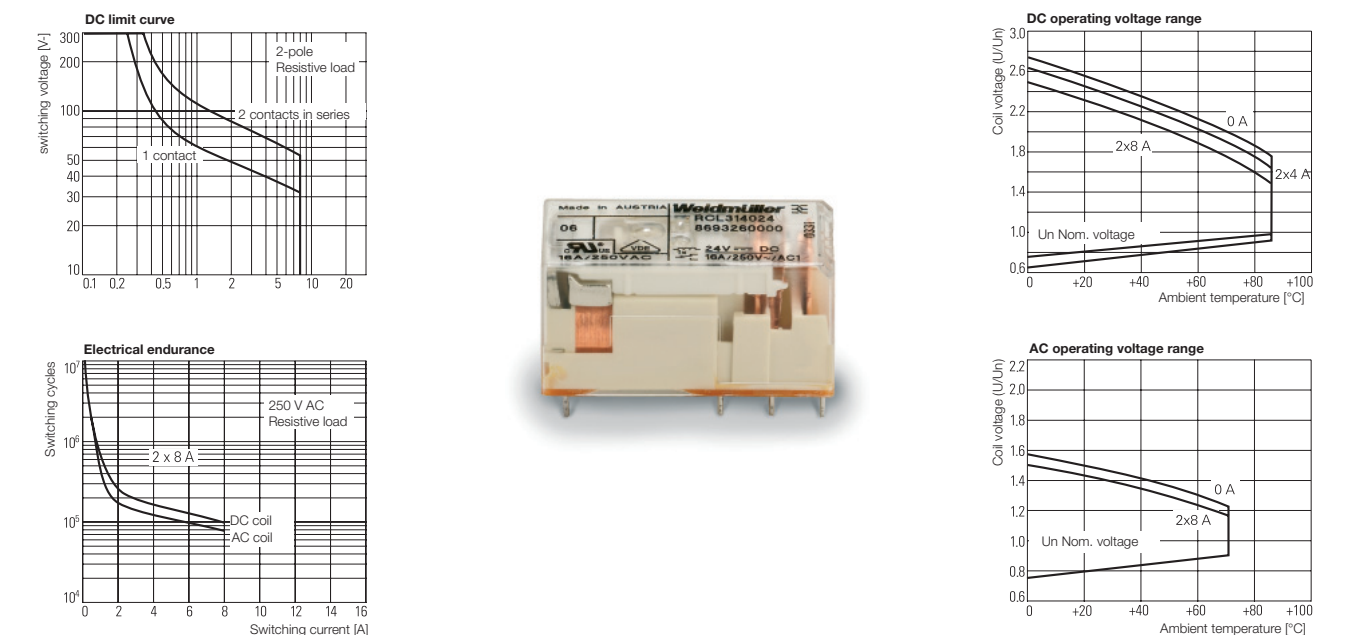
- Modular system comprising
- relay socket for rail mounting
 - LED indicator unit / RC combination
 - Retaining clip
 - plug-in relay

cross-section of coil connections
and relay changeover contacts by means of
plug-in cross-connection ZQV 2.5N



Output		
max. switching voltage AC/Continuous current	250 V/10 A	
min. switching power	10 V / 100 mA	
Response time / Drop-out time	9ms/45ms	
Contact base material	AgNi 90/10	
Mechanical endurance	5x10 ⁶ switching cycles	
max. switching frequency at rated load	0.1 Hz	
Rated data		
Status indicator/Free wheel diode	green LED/Yes	
Reverse pol. prot	available	
Operating temperature	-40 °C...+50 °C	
Storage temperature	-40 °C...+50 °C	
Humidity	40°C/93% RH, no condensation	
Approvals	CE;cURus;	
Insulation coordination (EN 50178)		
Standards	EN 50178	
Rated voltage	250 V	
Impulse withstand voltage	6 kV	
Creepage and clearance path input - output	> 8 mm	
Overvoltage category	III	
Pollution severity	2	
Protective separation to VDE 0106 part 101	yes	
Dimensions		
Clamping range (rating- / min. / max.)	mm ²	2.5 / 0.5 / 2.5
Length x width x height	mm	92 / 15.3 / 95
		92 / 15.3 / 87
Note		
Cross-connectors and markers - see PLUGSERIES accessories		

Applications



2 change-over contacts AC/DC coil

Ordering data		12 V DC 2CO	24 V DC 2CO	115 V DC 2CO	24 V AC 2CO
Input					
Rated voltage		12 V DC $\pm 20\%$	24 V DC $\pm 10\%$	115 V DC $\pm 10\%$	24 V AC $\pm 10\%$
Rated current AC					32 mA
Rated current DC		33 mA	16 mA	3.5 mA	
Power rating		400 mW	400 mW	400 mW	0.75 VA
AC Response/dropout Volt					17 V / 3.6 V
DC Response/dropout Volt		8.4 V / 1.2 V	16.8 V / 2.4 V	76 V / 11 V	
Ordering data					
Complete module					
Screw connection	Type	PRS 12Vdc LD 2CO	PRS 24Vdc LD 2CO	PRS 115Vdc LD 2CO	PRS 24Vac LD 2CO
	Order No.	8536501001	8530631001	8536520000	8536560000
Tension spring connection	Type	PRZ 12Vdc LD 2CO	PRZ 24Vdc LD 2CO	PRZ 115Vdc LD 2CO	PRZ 24Vac LD 2CO
	Order No.	8536591001	8530701001	8536630000	8536681001
Ordering data					
Spare relay (pluggable)					
	Type	RCL 424012 12Vdc-Rel2U	RCL 424024 24Vdc-Rel2U	RCL 424110 110Vdc-Rel2U	RCL 424524 24Vac-Rel2U
	Order No.	4058560000	4058570000	4058590000	4058600000
Note					
Ordering data		120 V AC 2CO	230 V AC 2CO		
Input					
Rated voltage		120 V AC $\pm 10\%$	230 V AC $\pm 10\%$		
Rated current AC		6.6 mA	3.2 mA		
Rated current DC					
Power rating		0.75 VA	0.75 VA		
AC Response/dropout Volt		86.3 V / 17.3 V	172.5 V / 34.5 V		
DC Response/dropout Volt					
Ordering data					
Complete module					
Screw connection	Type	PRS 120Vac LD 2CO	PRS 230Vac LD 2CO		
	Order No.	8530661001	8530681001		
Tension spring connection	Type	PRZ 120Vac LD 2CO	PRZ 230Vac LD 2CO		
	Order No.	8530720000	8530741001		
Ordering data					
Spare relay (pluggable)					
	Type	RCL 424615 115Vac-Rel2U	RCL 424730 230Vac-Rel2U		
	Order No.	4058610000	4058630000		
Note					

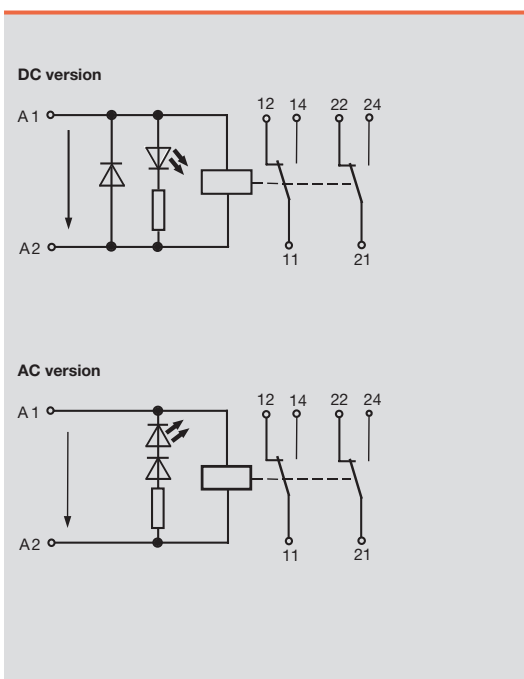
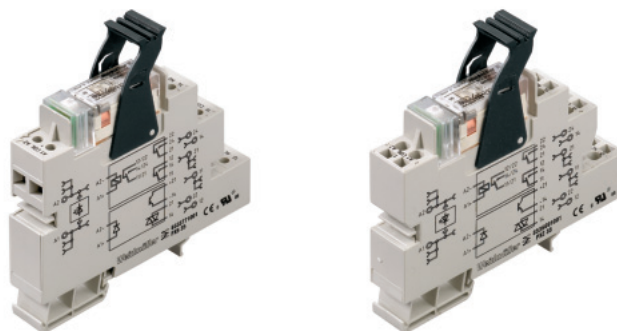
2 change-over contacts with gold-plated contacts AC/DC coil

Modular system comprising

- relay socket for rail mounting
- LED indicator unit / RC combination
- Retaining clip
- plug-in relay

cross-section of coil connections

and relay changeover contacts by means of
plug-in cross-connection ZQV 2.5N



Output	
max. switching voltage AC/Continuous current	250 V/10 A
min. switching power	5 V / 10 mA
Response time / Drop-out time	9ms/45ms
Contact base material	AgNi 5µm Au
Mechanical endurance	5x10 ⁶ switching cycles
max. switching frequency at rated load	0.1 Hz
Rated data	
Status indicator/Free wheel diode	green LED/no
Reverse pol. prot	not available
Operating temperature	-40 °C...+50 °C
Storage temperature	-40 °C...+50 °C
Humidity	40°C/93% RH, no condensation
Approvals	CE;cURus;
Insulation coordination (EN 50178)	
Standards	EN 50178
Rated voltage	250 V
Impulse withstand voltage	6 kV
Creepage and clearance path input - output	> 8 mm
Overvoltage category	III
Pollution severity	2
Protective separation to VDE 0106 part 101	yes
Dimensions	
Clamping range (rating- / min. / max.)	mm ²
Length x width x height	mm
Note	
Cross-connectors and markers - see PLUGSERIES accessories	

Ordering data

Input

Rated voltage	24 V DC ±10 %
Rated current AC	
Rated current DC	16 mA
Power rating	400 mW
AC Response/dropout Volt	
DC Response/dropout Volt	16.8 V / 2.4 V

24 V DC 2CO Au

120 V AC 2CO Au

120 V AC ±10 %
6.6 mA
0.75 VA
86,3 V/ 17,3 V

230 V AC 2CO Au

230 V AC ±10%
3.2 mA
0.75 VA
172.5 V/ 34.5 V

Ordering data

Complete module

Screw connection	Type
Order No.	
Tension clamp connection	Type
Order No.	

PRS 24VDC LD 2COAU

8561760000

PRZ 24Vdc LD 2CO AU

8552440000

PRS 120VAC LD 2CO AU

8595960000

PRZ 120VAC LD 2COAU

8575940000

PRS 230VAC LD 2CO AU

8595990000

PRZ 230VAC LD 2COAU

8575950000

Ordering data

Spare relay, pluggable

Type	
Order No.	

RCL 425024 24Vdc-Rel2U

4058580000

RCL 425615 115Vac-Rel2U

4058620000

RCL 425730 230Vac-Rel2U

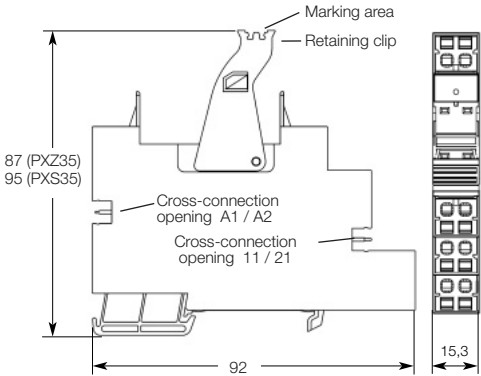
4058640000

Note

Accessories

PLUGSERIES

Relays for high making currents

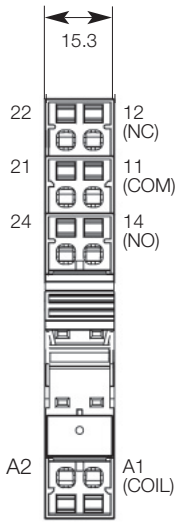


Technical data

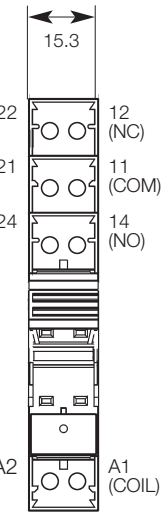
Base without relay	
Nominal current	16 A
Nominal voltage	250 V
Dielectric strength coil/contact	> 4 kV
Ingress protection class	IP 20
Nominal cross-section	2.5 mm ²
Stripping length	8 mm
	10 mm
Ambient temperature	–40 °C ... +60 °C
UL 94 flammability rating	V-0

16 A
250 V
> 4 kV
IP 20
2.5 mm ²
8 mm
10 mm
–40 °C ... +60 °C
V-0

Tension clamp connection



Screw connection



Ordering data

Base for mounting on TS 35 DIN Rail	
Screw connection	
Tension clamp connection	

Type	Qty	Order No.
PXS35	10	8533771001
PXZ35	10	8536691001

Retaining clip	
PRC	100

PRC	100	8536700000
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LED indicator with free wheel diode	
6 ... 24 V DC	PLED 24 V DC
red LED, 6 ... 24 V DC	PLED 24 V DC rot
48 ... 60 V DC	PLED 48 V DC
115 V DC	PLED 115 V DC
12 ... 24 V AC	PLED 24 V AC
115 V AC	PLED 120 V AC
230 V AC	PLED 230 V AC
red LED, 230 V AC	PLED 230 V AC rot
RC combination 120 ... 230 V AC/DC	PLRC 200 nF/200Ω

PLED 24 V DC	20	8536710000
PLED 24 V DC rot	20	8611010000
PLED 48 V DC	20	8536720000
PLED 115 V DC	20	8536730000
PLED 24 V AC	20	8536750000
PLED 120 V AC	20	8536760000
PLED 230 V AC	20	8536780000
PLED 230 V AC rot	20	8611000000
PLRC 200 nF/200Ω	20	8566530000

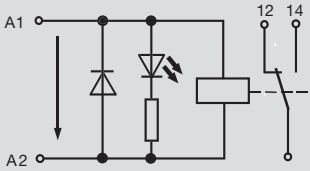
Plug-in cross-connections	
2-pole	black
	red
	blue

ZQV 2.5N/4-2SW	60	1784270000
ZQV 2.5N/4-2RT	60	1784280000
ZQV 2.5N/4-2BL	60	1784290000

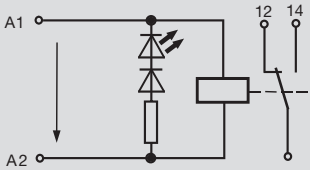
Markers	
10 x 5 mm	WS 10/5
15 x 5 mm	WS 15/5

WS 10/5	200	1060860000
WS 15/5	96	1609880000

DC-Version

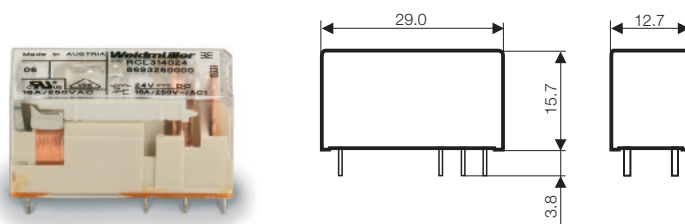


AC-Version



RCL relay
1 CO contact AC/DC coil

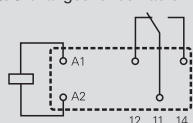
- 3000 or 4000 VA switching capacity
- Low height of 15.7 mm
- Hard gold-plated contacts available
- For boiler controls, timing relays, garage door controls, Interface modules



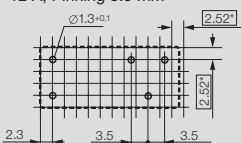
Circuit diagram

View of connections
Dimensions in mm

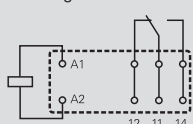
1 C/O changeover contacts



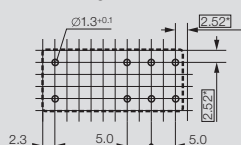
12 A, Pinning 3.5 mm



1 C/O changeover contacts



16 A, Pinning 5 mm



Output

max. switching voltage AC	250 V
Continuous current	12 A for 3.5 mm / 16 A for 5 mm pinning
Contact base material	AgNi 90/10 or AgNi 5µm Au
Mechanical endurance	AC coil 10x10 ⁶ / DC coil 30x10 ⁶ switching operations
Response time / Drop-out time	7 ms / 3 ms

Rated data

Status indicator/Free wheel diode	no/no
Operating temperature	-40 °C...+70 °C
UL 94 flammability rating	V-0
Approvals	cURus; VDE;

Insulation coordination (IEC 60664)

Rated voltage	250 V
Creepage and clearance path input - output	10 mm
Overvoltage category	III
Pollution severity	3
Protective separation to VDE 0106 part 101	yes

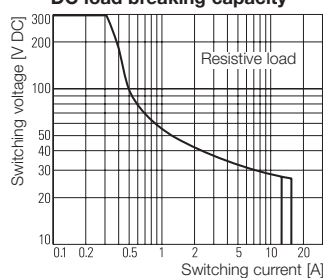
Dimensions

Length x width x height	mm	29 / 12.7 / 15.7
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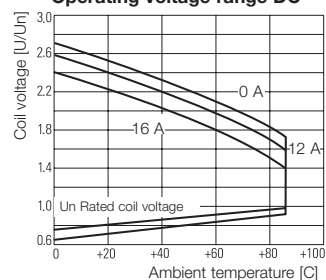
Note

Applications

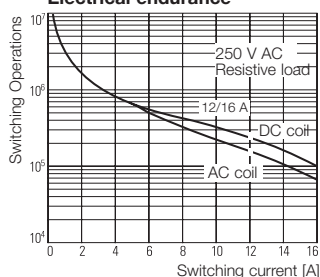
DC load breaking capacity



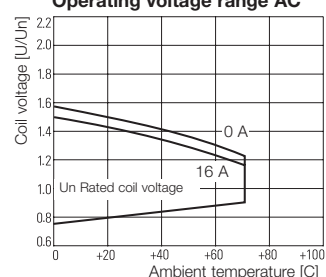
Operating voltage range DC



Electrical endurance



Operating voltage range AC



RCL relay
1 CO contact AC/DC coil

Type code

RCL

Type **RIDER Control Low**

Type of construction

- 1 12 A, Pitch 3.5 mm, flux proof
- 2 12 A, Pitch 5 mm, flux proof
- 3 16 A, Pitch 5 mm, flux proof

Type of contact

- 1 1 CO contacts
- 3 1 NO contacts

Contact material

- 4 AgNi 90/10
- 5 AgNi 90/10 hgp

DC coil

- 006 6 V DC
- 012 12 V DC
- 024 24 V DC
- 048 48 V DC
- 060 60 V DC
- 110 110 V DC

AC coil

- 512 12 V AC
- 524 24 V AC
- 548 48 V AC
- 615 115 V AC
- 730 230 V AC

Ordering data

Input	6 V DC 1CO	12 V DC 1CO	24 V DC 1CO	48 V DC 1CO
Rated voltage	6 V DC	12 V DC	24 V DC	48 V DC
DC Response/dropout Volt	4.2 V / 0.6 V	8.4 V / 1.2 V	16.8 V / 2.4 V	33.6 V / 4.8 V
Power rating	500 mW	500 mW	500 mW	500 mW
Rated current DC	66.7 mA	33.3 mA	16.7 mA	8.7 mA
Coil resistance	90 Ω $\pm$ 10%	360 Ω $\pm$ 10%	1440 Ω $\pm$ 10%	5520 Ω $\pm$ 10%

Ordering data Relay				
12 A / 3.5 mm Type	RCL114006	RCL114012	RCL114024	RCL114048
AgNi 90/10 Order No.	8693400000	8693190000	8693180000	8693480000
16 A / 5 mm Type	RCL314006	RCL314012	RCL314024	RCL314048
AgNi 90/10 Order No.	8693800000	8693240000	8693260000	8693380000
16 A / 5 mm Type		RCL315012	RCL315024	RCL315048
AgNi 5 μ m Au Order No.		on request	8824830000	on request

Note

Ordering data

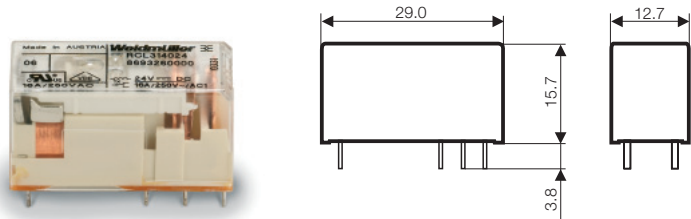
Input	24 V AC 1CO	48 V AC 1CO	115 V AC 1CO	230 V AC 1CO
Rated voltage	24 V AC	48 V AC	115 V AC	230 V AC
AC Response/dropout Volt	18.0 V / 3.6 V	64 V / 7.2 V	86.3 V / 17.3 V	172.5 V / 34.5 V
Power rating	0,75 VA	0,75 VA	0,75 VA	0,75 VA
Rated current AC	31.6 mA	15,6 mA	6.6 mA	3.2 mA
Coil resistance	1440 Ω $\pm$ 10%	1420 Ω $\pm$ 10%	8100 Ω $\pm$ 15%	32500 Ω $\pm$ 15%

Ordering data Relay				
12 A / 3.5 mm Type	RCL114524	RCL114548	RCL114615	RCL114730
AgNi 90/10 Order No.	8693220000	8693510000	8693390000	8693230000
16 A / 5 mm Type	RCL314524	RCL314548	RCL314615	RCL314730
AgNi 90/10 Order No.	8693500000	8693880000	8693890000	8693320000
16 A / 5 mm Type	RCL315524	RCL315548	RCL315615	RCL315730
AgNi 5 μ m Au Order No.	8824870000	on request	8824880000	8824890000

Note

RCL relay
2 CO contact AC/DC coil

- 2000 VA switching capacity
- Low height of 15.7 mm
- Hard gold-plated contacts available
- For domestic appliances, heating controllers, emergency lighting systems, modems

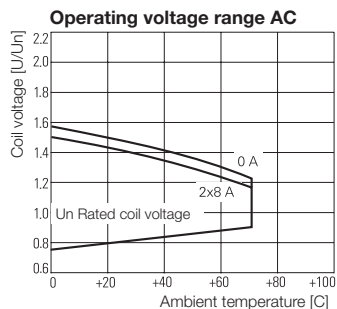
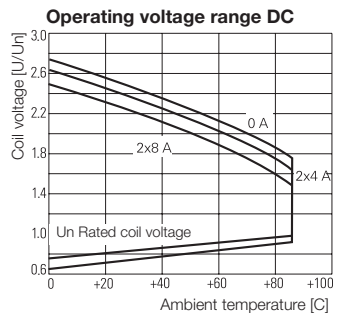
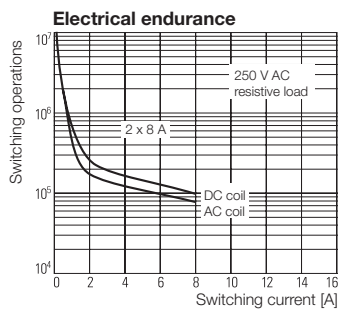
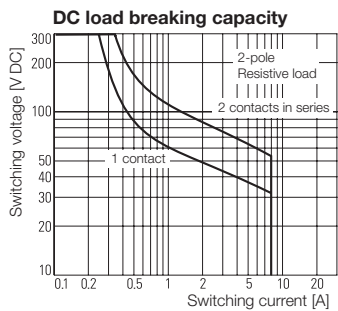


Circuit diagram
View of connections
Dimensions in mm

2 C/O changeover contacts

Output	
max. switching voltage AC	250 V
Continuous current	8 A / 1 contact
Contact base material	AgNi 90/10 or AgNi 5µm Au
Mechanical endurance	AC coil 5x10 ⁶ / DC coil 30x10 ⁶ switching operations
Response time / Drop-out time	7ms / 2ms
Rated data	
Status indicator/Free wheel diode	no/no
Operating temperature	-40 °C...+70 °C
UL 94 flammability rating	V-0
Approvals	cURus; VDE;
Insulation coordination (IEC 60664)	
Rated voltage	250 V
Creepage and clearance path input - output	10 mm
Overvoltage category	III
Pollution severity	3
Protective separation to VDE 0106 part 101	yes
Dimensions	
Length x width x height	mm 29 / 12.7 / 15.7
Note	

Applications



RCL relay
2 CO contact AC/DC coil

Type code

RCL

Type **RIDER Control Low**

Type of construction

4 8 A, pitch 5 mm, flux proof

Type of contact

2 2 CO contacts

4 2 NO contacts

Contact material

4 AgNi 90/10

5 AgNi 90/10 hgp

DC coil

006 6 V DC

012 12 V DC

024 24 V DC

048 48 V DC

060 60 V DC

110 110 V DC

AC coil

512 12 V AC

524 24 V AC

548 48 V AC

615 115 V AC

730 230 V AC

Ordering data

Input	12 V DC 2CO	24 V DC 2CO	48 V DC 2CO	110 V DC 2CO
Rated voltage	12 V DC	24 V DC	48 V DC	110 V DC
DC Response/dropout Volt	8,4 V / 1,2 V	16,8 V / 2,4 V	33,6 V / 4,8 V	77 V / 11 V
Power rating	500 mW	500 mW	500 mW	500 mW
Rated current DC	33,3 mA	16,7 mA	8,7 mA	4,1 mA
Coil resistance	360 Ω $\pm$ 10%	1440 Ω $\pm$ 10%	5520 Ω $\pm$ 10%	26600 Ω $\pm$ 12%

Ordering data Relay				
8 A / 5 mm Type	RCL 424012 12Vdc-Rel2U	RCL 424024 24Vdc-Rel2U	RCL424048	RCL 424110 110Vdc-Rel2U
AgNi 90/10 Order No.	4058560000	4058570000	4058750000	4058590000
Type Order No.				
8 A / 5 mm Type	RCL425012	RCL 425024 24Vdc-Rel2U	RCL425048	RCL425110
AgNi 5 μ m Au Order No.	on request	4058580000	on request	8828370000

Note

Ordering data

Input	24 V AC 2CO	48 V AC 2CO	115 V AC 2CO	230 V AC 2CO
Rated voltage	24 V AC	48 V AC	115 V AC	230 V AC
AC Response/dropout Volt	18 V / 3,6 V	64 V / 7,2 V	86,3 V / 17,3 V	172,5 V / 34,5 V
Power rating	0,75 VA	0,75 VA	0,75 VA	0,75 VA
Rated current AC	31,6 mA	15,6 mA	6,6 mA	3,2 mA
Coil resistance	350 Ω $\pm$ 10%	1420 Ω $\pm$ 10%	8100 Ω $\pm$ 15%	32500 Ω $\pm$ 15%

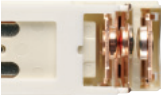
Ordering data Relay				
8 A / 5 mm Type	RCL 424524 24Vac-Rel2U	RCL424548	RCL 424615 115Vac-Rel2U	RCL 424730 230Vac-Rel2U
AgNi 90/10 Order No.	4058600000	8693340000	4058610000	4058630000
Type Order No.				
8 A / 5 mm Type	RCL425524	RCL425548	RCL 425615 115Vac-Rel2U	RCL 425730 230Vac-Rel2U
AgNi 5 μ m Au Order No.	on request	on request	4058620000	4058640000

Note

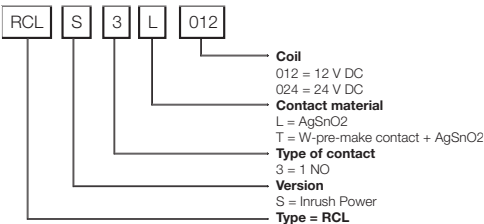
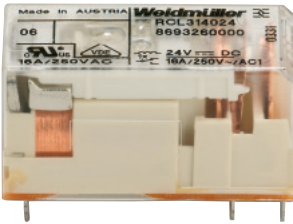
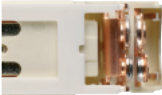
RCLS – Inrush Power

- 1 NO
- High making currents possible
- RCLS3L 120 A for max. 20 ms
- RCLS3T 165 A for max. 20 ms / 800 A for 200 µs
- New contact principle

Switching contact
for AgSnO2



Switching contact
for AgSnO2+W



Circuit diagram
View of connections
Dimensions in mm

1 NO contact

Ø 1.3

7.5

20.3

22.62

5.04

2.52

2.52

1.3

Output	
Max. switching voltage AC	240 V
Rated current	16 A
Max. switching current	120 A @ 20 ms (RCLS3L) 165 A @ 20 ms / 800 A @ 200 µs (RCLS3T)
Contact base material	AgSnO2 (RCLS3L) / AgSnO2 + W (RCLS3T)
Mechanical endurance	10 x 10 ⁶ (RCLS3L) / 5 x 10 ⁶ (RCLS3T)
Response time / Release time	10 ms / 4 ms
Rated data	
Ambient temp., fitted w/o distance	-25 °C ... +70 °C
Flammability rating UL 94	V-0
Approvals	cURus / VDE
Insulation coordinates (IEC 60664)	
Rated voltage	250 V
Creepage and clearance path input – output	10 mm
Overtoltage category	III
Pollution severity	2
Dimensions	
Length x width x height	mm 29 / 12.7 / 15.7
Information	

Order data	12 V DC 1NO	24 V DC 1NO	12 V DC 1NO	24 V DC 1NO
Input				
Rated voltage	12 V DC	24 V DC	12 V DC	24 V DC
Rated current DC	33.3 mA	16.7 mA	33.3 mA	16.7 mA
Power rating	400 mW	400 mW	400 mW	400 mW
Oper.-/drop-out volt. DC-coil	8.4 V / 1.2 V	16.8 V / 2.4 V	8.4 V / 1.2 V	16.8 V / 2.4 V

Order data					
Break contact element	Type	RCLS 3L012	RCLS 3L024	RCLS 3T012	RCLS 3T024
	Order No.	8866890000	8866900000	8866910000	8866920000
Information		Contact material AgSnO2	Contact material AgSnO2	Contact material AgSnO2 + W	Contact material AgSnO2 + W

Safe. Fast. RIDERSERIES.

The RIDERSERIES relays with industrial pinning and bases with Push In connectivity.

Profit from the unbeatable advantages offered by the RIDERSERIES relays:

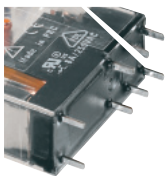
- Safe: industrial pinning
- Useful: free-wheeling diode and LED indicator
- Practical: test lever for mechanical operation of the contacts
- Fast: base with Push In connection
- Time-saving: cross connections can be instantly plugged-in



Discover the advantages of our new RIDERSERIES for yourself.

Safe. Simple. RCI.

The new RCI power relays from Weidmüller have been developed for use in industrial applications. Thanks to their outstanding contact properties, the relays can handle power up to 16 A with 24 Vdc or 230 Vac. To split the signal, simply use two change-over contacts, in which case the contacts each switch loads of up to 8 A with 24 Vdc or 230 Vac. As a handy extra detail, the AC and DC inputs are different colours for easy identification.



Establishing reliable connections: strong industrial pins for safe and fast assembly.

Reducing assembly time into the base: the integrated free-wheeling diode (DC) and the LED indicator.



Easy to use: test lever for mechanical operation of the contacts.



Simply release the catch and the test lever will click into place.

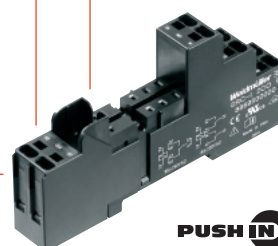
Fast. Straightforward. Push In.

RIDERSERIES relay bases are equipped with Push In connectivity. That means you need 75 % less time for wiring than for a relay base with a screw connection because solid and crimped conductors can simply be inserted without the need to open the clamping point. Other accessories include modules for input wiring, retaining clips and multicard markers.



Time-saving cross-connections: two-pin bridges for instantly pluggable electrical distribution in the input and output. You only need one clamping point for each Push In connection – the second one remains free for other connections!

It's never been so easy. Insert the conductor and you're done – a safe connection has been made! Each connection has two clamping points for conductors up to 1.5 mm².



Extremely practical: a universal slot allows you to add modules to wire the relay coil, e.g. for varistors, resistances or RC combinations.

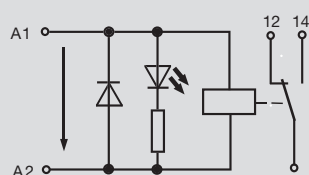


RCI KIT with screw connection 1 changeover contact

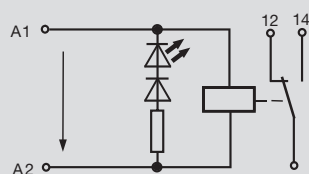
- 4000 VA switching capacity
- Robust plug-in connections
- LED integrated into relay
- Protective circuit with DC coil
- Optional test button with clip-in function and viewing window



DC-Version



AC-Version



Output

max. switching voltage AC	250 V
Continuous current	16 A
Contact base material	AgNi 90/10
Mechanical endurance	AC coil 5x10 ⁶ / DC coil 10x10 ⁵ switching operations
Response time / Drop-out time	7 ms / 3 ms

Rated data

Status indicator / Free wheel diode	yes / yes
Operating temperature	-40 °C...+70 °C
UL 94 flammability rating	V-0
Approvals	CE

Insulation coordination (IEC 60664)

Rated voltage	250 V
Creepage and clearance path input - output	8 mm
Overvoltage category	III
Pollution severity	3
Protective separation to VDE 0106 part 101	yes

Dimensions

		Screw connection
Clamping range (rating- / min. / max.)	mm ²	2.5 / 0.5 / 2.5
Length x width x height	mm	70 / 15.5 / 77

Note

Ordering data

Input	24 V DC 1CO	24 V AC 1CO	115 V AC 1CO	230 V AC 1CO
Rated voltage	24 V DC	24 V AC	115 V AC	230 V AC
Rated current AC		31,6 mA	6,6 mA	3,2 mA
Rated current DC	16,7 mA			
Power rating	400 mW	0,75 VA	0,75 VA	0,75 VA
AC Response/dropout Volt		18 V / 3,6 V	86,3 V / 17,3 V	172,5 V / 34,5 V
DC Response/dropout Volt	16,8 V / 2,4 V			
Coil resistance	1440 Ω ±10%	350 Ω ±10%	8100 Ω ±15%	32500 Ω ±15%

Ordering data

Complete module

with test button	Type	RCIKIT 24VDC 1CO LD/PB	RCIKIT 24VAC 1CO LD/PB	RCIKIT 120VAC 1CO LD/PB	RCIKIT 230VAC 1CO LD/PB
Order No.		8881580000	8881590000	8897060000	8881600000
without test button	Type	RCIKIT 24VDC 1CO LED	RCIKIT 24VAC 1CO LED	RCIKIT 120VAC 1CO LD	RCIKIT 230VAC 1CO LED
Order No.		8871000000	8871010000	8897090000	8871020000

Ordering data

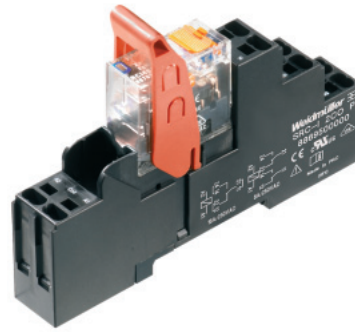
Spare relay, pluggable

	w. test button	w.o. test button	w. test button	w.o. test button	w. test button	w.o. test button	w. test button	w.o. test button
Type	RCI374AC4	RCI314AC4	RCI374R24	RCI314R24	RCI374S15	RCI314S15	RCI374T30	RCI314T30
Order No.	8870250000	8870100000	8870280000	8870130000	8870290000	8870140000	8870300000	8870150000

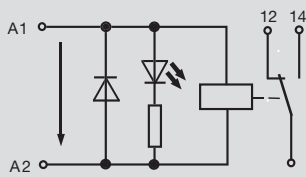
Note

RCI-KITP with Push In connection 1 changeover contact

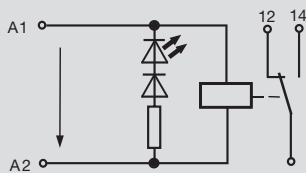
- 4000 VA switching capacity
- Robust plug-in connections
- LED integrated into relay
- Protective circuit with DC coil
- Optional test button with clip-in function and viewing window



DC-Version



AC-Version



Output

max. switching voltage AC	250 V
Continuous current	16 A
Contact base material	AgNi 90/10
Mechanical endurance	AC coil 5x10 ⁶ / DC coil 10x10 ⁵ switching operations
Response time / Drop-out time	7 ms / 3 ms

Rated data

Status indicator / Free wheel diode	yes / yes
Operating temperature	-40 °C...+70 °C
UL 94 flammability rating	V-0
Approvals	CE

Insulation coordination (IEC 60664)

Rated voltage	250 V
Creepage and clearance path input - output	8 mm
Overvoltage category	III
Pollution severity	3
Protective separation to VDE 0106 part 101	yes

Dimensions

		Push-In
Clamping range (rating- / min. / max.)	mm ²	1.5 / 0.75 / 1.5
Length x width x height	mm	70 / 15.5 / 98

Note

Ordering data

Input	24 V DC 1CO	24 V AC 1CO	115 V AC 1CO	230 V AC 1CO
Rated voltage	24 V DC	24 V AC	115 V AC	230 V AC
Rated current AC		31,6 mA	6,6 mA	3,2 mA
Rated current DC	16,7 mA			
Power rating	400 mW	0,75 VA	0,75 VA	0,75 VA
AC Response/dropout Volt		18 V / 3,6 V	86,3 V / 17,3 V	172,5 V / 34,5 V
DC Response/dropout Volt	16,8 V / 2,4 V			
Coil resistance	1440 Ω ±10%	350 Ω ±10%	8100 Ω ±15%	32500 Ω ±15%

Ordering data

Complete module

	Type	RCIKITP 24VDC 1CO LD/PB	RCIKITP 24VAC 1CO LD/PB	RCIKITP120VAC 1CO LD/PB	RCIKITP230VAC 1CO LD/PB
with test button	Order No.	8897190000	8897200000	8897210000	8897220000
without test button	Type	RCIKITP 24VDC 1CO LD	RCIKITP 24VAC 1CO LD	RCIKITP 120VAC 1CO LD	RCIKITP 230VAC 1CO LD
	Order No.	8897110000	8897120000	8897130000	8897140000

Ordering data

Spare relay, pluggable

	Type	w. test button	w.o. test button	w. test button	w.o. test button	w. test button	w.o. test button	w. test button	w.o. test button
	Order No.	RCI374AC4	RCI314AC4	RCI374R24	RCI314R24	RCI374S15	RCI314S15	RCI374T30	RCI314T30
		8870250000	8870100000	8870280000	8870130000	8870290000	8870140000	8870300000	8870150000

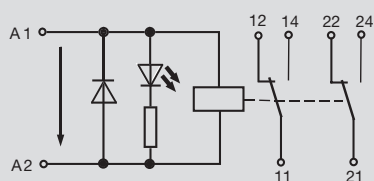
Note

RCI KIT with screw connection 2 changeover contacts

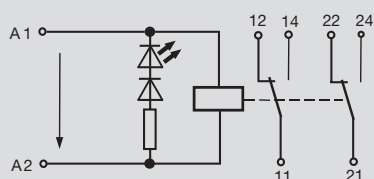
- 2000 VA switching capacity
- Robust plug-in connections
- LED integrated into relay
- Protective circuit with DC coil
- Optional test button with clip-in function and viewing window



DC-Version



AC-Version



Output

max. switching voltage AC	250 V
Continuous current	8 A / 1 contact
Contact base material	AgNi 90/10
Mechanical endurance	AC coil 5x10 ⁶ / DC coil 10x10 ⁵ switching operations
Response time / Drop-out time	7 ms / 2 ms

Rated data

Status indicator / Free wheel diode	yes / yes
Operating temperature	-40 °C...+70 °C
UL 94 flammability rating	V-0
Approvals	CE

Insulation coordination (IEC 60664)

Rated voltage	250 V
Creepage and clearance path input - output	8 mm
Overvoltage category	III
Pollution severity	3
Protective separation to VDE 0106 part 101	yes

Dimensions

		Screw connection
Clamping range (rating- / min. / max.)	mm ²	2.5 / 0.5 / 2.5
Length x width x height	mm	70 / 15.5 / 77

Note

Ordering data

Input	24 V DC 2CO	24 V AC 2CO	115 V AC 2CO	230 V AC 2CO
Rated voltage	24 V DC	24 V AC	115 V AC	230 V AC
Rated current AC		31,6 mA	6,6 mA	3,2 mA
Rated current DC	16,7 mA			
Power rating	400 mW	0,75 VA	0,75 VA	0,75 VA
AC Response/dropout Volt		18 V / 3,6 V	86,3 V / 17,3 V	172,5 V / 34,5 V
DC Response/dropout Volt	16,8 V / 2,4 V			
Coil resistance	1440 Ω ±10%	350 Ω ±10%	8100 Ω ±15%	32500 Ω ±15%

Ordering data

Complete module				
with test button	Type	RCIKIT 24VDC 2CO LD/PB	RCIKIT 24VAC 2CO LD/PB	RCIKIT 120VAC 2CO LD/PB
	Order No.	8881610000	8881620000	8897080000
without test button	Type	RCIKIT 24VDC 2CO LED	RCIKIT 24VAC 2CO LED	RCIKIT 120VAC 2CO LED
	Order No.	8871030000	8871040000	8897100000

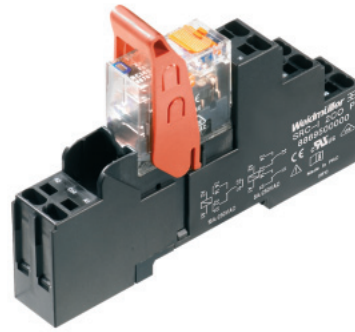
Ordering data

Spare relay, pluggable							
	w. test button	w.o. test button	w. test button	w.o. test button	w. test button	w.o. test button	w. test button
Type	RCI484AC4	RCI424AC4	RCI484R24	RCI424R24	RCI484S15	RCI424S15	RCI484T30
Order No.	8870320000	8870180000	8870350000	8870210000	8870360000	8870220000	8870370000

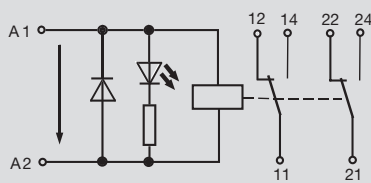
Note

RCI-KITP with Push In connection 2 changeover contacts

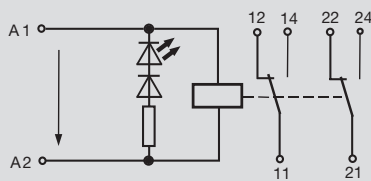
- 2000 VA switching capacity
- Robust plug-in connections
- LED integrated into relay
- Protective circuit with DC coil
- Optional test button with clip-in function and viewing window



DC-Version



AC-Version



Output

max. switching voltage AC	250 V
Continuous current	8 A / 1 contact
Contact base material	AgNi 90/10
Mechanical endurance	AC coil 5x10 ⁶ / DC coil 10x10 ⁵ switching operations
Response time / Drop-out time	7 ms / 2 ms

Rated data

Status indicator / Free wheel diode	yes / yes
Operating temperature	-40 °C...+70 °C
UL 94 flammability rating	V-0
Approvals	CE

Insulation coordination (IEC 60664)

Rated voltage	250 V
Creepage and clearance path input - output	8 mm
Overvoltage category	III
Pollution severity	3
Protective separation to VDE 0106 part 101	yes

Dimensions

		Push-In
Clamping range (rating- / min. / max.)	mm ²	1.5 / 0.75 / 1.5
Length x width x height	mm	70 / 15.5 / 98

Note

Ordering data

Input	24 V DC 2CO	24 V AC 2CO	115 V AC 2CO	230 V AC 2CO
Rated voltage	24 V DC	24 V AC	115 V AC	230 V AC
Rated current AC		31,6 mA	6,6 mA	3,2 mA
Rated current DC	16,7 mA			
Power rating	400 mW	0,75 VA	0,75 VA	0,75 VA
AC Response/dropout Volt		18 V / 3,6 V	86,3 V / 17,3 V	172,5 V / 34,5 V
DC Response/dropout Volt	16,8 V / 2,4 V			
Coil resistance	1440 Ω ±10%	350 Ω ±10%	8100 Ω ±15%	32500 Ω ±15%

Ordering data

Complete module				
with test button	Type	RCIKITP 24VDC 2CO LD/PB	RCIKITP 24VAC 2CO LD/PB	RCIKITP120VAC 2CO LD/PB
	Order No.	8897230000	8897240000	8897250000
without test button	Type	RCIKITP 24VDC 2CO LD	RCIKITP 24VAC 2CO LD	RCIKITP 120VAC 2CO LD
	Order No.	8897150000	8897160000	8897170000

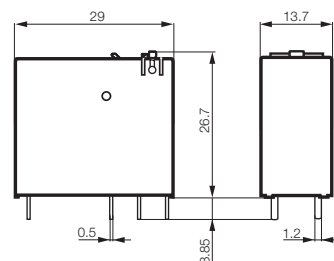
Ordering data

Spare relay, pluggable				
	w. test button	w.o. test button	w. test button	w.o. test button
Type	RCI484AC4	RCI424AC4	RCI484R24	RCI424R24
Order No.	8870320000	8870180000	8870350000	8870210000

Note

RCI relay
1 CO contact AC/DC coil

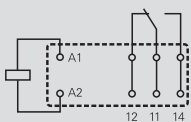
- 4000 VA breaking capacity
- Sturdy plug-in connection
- Optional test button with lock function and window
- Optional status indicator
- Optional suppressor



Circuit diagram

View of connections
Dimensions in mm

1 C/O changeover contact



Output

max. switching voltage AC	250 V
Continuous current	16 A
Contact base material	AgNi 90/10
Mechanical endurance	AC coil 5x10 ⁶ / DC coil 10x10 ⁵ switching operations
Response time / Drop-out time	7 ms / 3 ms

Rated data

Status indicator / Free wheel diode	see ordering data
Operating temperature	-40 °C...+70 °C
UL 94 flammability rating	V-0
Approvals	cURus; VDE; CE;

Insulation coordination (IEC 60664)

Rated voltage	250 V
Creepage and clearance path input - output	8 mm
Overvoltage category	III
Pollution severity	3
Protective separation to VDE 0106 part 101	yes

Dimensions

Single relay

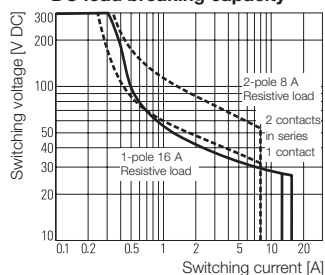
Length x width x height	mm	29 / 13.7 / x
Note		x = 25.5 without test button / 26.7 with test button

Note

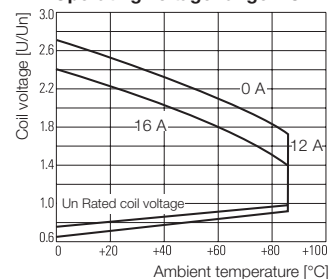
x = 25.5 without test button / 26.7 with test button

Applications

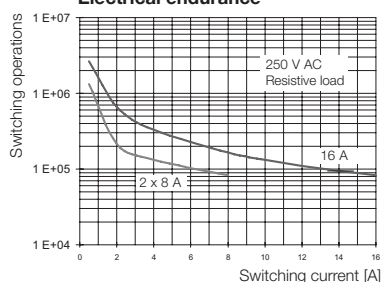
DC load breaking capacity



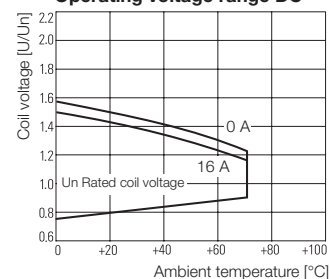
Operating voltage range DC



Electrical endurance



Operating voltage range DC



RCI relay 1 CO contact AC/DC coil

Type code	RCI				
Type	RIDER Control Industrial				
Type of construction	3 1-pole, 16 A 4 2-pole, 8 A				
Type of contact	1 1 CO contact without test button 2 2 CO contacts without test button 7 1 CO contact with test button 8 2 CO contacts with test button				
Contact material	4 AgNi 90/10				
Coil	012 12 V DC 024 24 V DC 048 48 V DC 110 110 V DC 524 24 V AC 615 115 V AC 730 230 V AC AB2 12 V DC+LED+diode AC4 24 V DC+LED+diode AE8 48 V DC+LED+diode BB0 110 V DC+LED+diode R24 24 V AC+LED S15 115 V AC+LED T30 230 V AC+LED				

Ordering data

Input	12 V DC 1CO	24 V DC 1CO	48 V DC 1CO	110 V DC 1CO
Rated voltage	12 V DC	24 V DC	48 V DC	110 V DC
DC Response/dropout Volt	8,4 V / 1,2 V	16,8 V / 2,4 V	33,6 V / 4,8 V	77 V / 11 V
Power rating	400 mW	400 mW	400 mW	400 mW
Rated current DC	33,3 mA	16,7 mA	8,7 mA	4,1 mA
Coil resistance	360 Ω $\pm$ 10%	1440 Ω $\pm$ 10%	5520 Ω $\pm$ 10%	26600 Ω $\pm$ 12%

Ordering data Relais

Standard	Type	RCI314012	RCI314024	RCI314048	RCI314110
	Order No.	8869800000	8869810000	8869820000	8869830000
with test button	Type	RCI374012	RCI374024	RCI374048	RCI374110
	Order No.	8869950000	8869960000	8869970000	8869980000
with LED + protective diode*	Type	RCI314AB2	RCI314AC4	RCI314AE8	RCI314BB0
	Order No.	8870090000	8870100000	8870110000	8870120000
with test button + LED	Type	RCI374AB2	RCI374AC4	RCI374AE8	RCI374BB0
+ protective diode*	Order No.	8870240000	8870250000	8870260000	8870270000

Note

*Protective diode only with DC input

Ordering data

Input	24 V AC 1CO	115 V AC 1CO	230 V AC 1CO	
Rated voltage	24 V AC	115 V AC	230 V AC	
AC Response/dropout Volt	18 V / 3,6 V	86,3 V / 17,3 V	172,5 V / 34,5 V	
Power rating	0,75 VA	0,75 VA	0,75 VA	
Rated current AC	31,6 mA	6,6 mA	3,2 mA	
Coil resistance	350 Ω $\pm$ 10%	8100 Ω $\pm$ 15%	32500 Ω $\pm$ 15%	

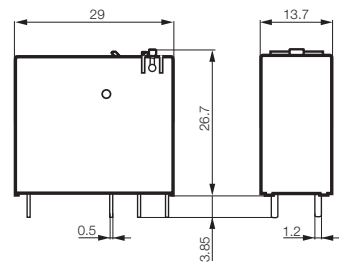
Ordering data Relais

Standard	Type	RCI314524	RCI314615	RCI314730	
	Order No.	8869840000	8869850000	8869860000	
with test button	Type	RCI374524	RCI374615	RCI374730	
	Order No.	8869990000	8870000000	8870010000	
with LED	Type	RCI314R24	RCI314S15	RCI314T30	
	Order No.	8870130000	8870140000	8870150000	
with test button + LED	Type	RCI374R24	RCI374S15	RCI374T30	
	Order No.	8870280000	8870290000	8870300000	

Note

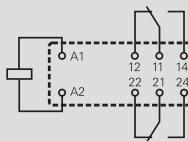
RCI relay
2 CO contact AC/DC coil

- 2000 VA breaking capacity
- Sturdy plug-in connection
- Optional test button with lock function and window
- Optional status indicator
- Optional suppressor



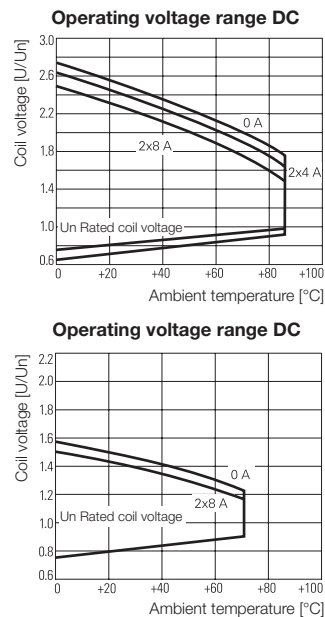
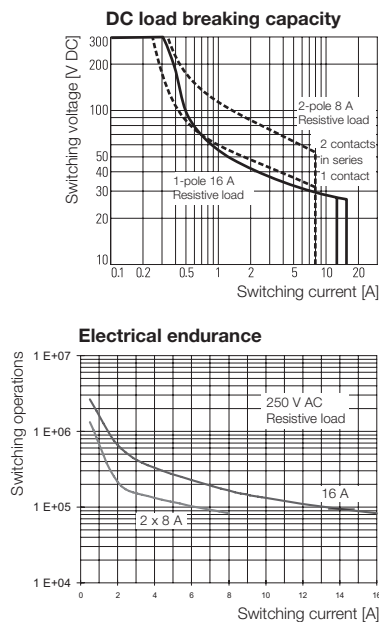
Circuit diagram
View of connections
Dimensions in mm

2 C/O changeover contacts



Output		
max. switching voltage AC		250 V
Continuous current		8 A / 1 contact
Contact base material		AgNi 90/10
Mechanical endurance		AC coil 5x10 ⁶ / DC coil 10x10 ⁶ switching operations
Response time / Drop-out time		7 ms / 2 ms
Rated data		
Status indicator / Free wheel diode		see ordering data
Operating temperature		-40 °C...+70 °C
UL 94 flammability rating		V-0
Approvals		cURus; VDE;
Insulation coordination (IEC 60664)		
Rated voltage		250 V
Creepage and clearance path input - output		8 mm
Overvoltage category		III
Pollution severity		3
Protective separation to VDE 0106 part 101		yes
Dimensions		Single relay
Length x width x height	mm	29 / 13.7 / x
Note		x = 25.5 without test button / 26.7 with test button

Applications



RCI relay 2 CO contact AC/DC coil

Type code	RCI				
Type	RIDER Control Industrial				
Type of construction	3 1-pole, 16 A 4 2-pole, 8 A				
Type of contact	1 1 CO contact without test button 2 2 CO contacts without test button 7 1 CO contact with test button 8 2 CO contacts with test button				
Contact material	4 AgNi 90/10				
Coil	012 12 V DC 024 24 V DC 048 48 V DC 110 110 V DC 524 24 V AC 615 115 V AC 730 230 V AC AB2 12 V DC+LED+diode AC4 24 V DC+LED+diode AE8 48 V DC+LED+diode BB0 110 V DC+LED+diode R24 24 V AC+LED S15 115 V AC+LED T30 230 V AC+LED				

Ordering data

Input	12 V DC 2CO	24 V DC 2CO	48 V DC 2CO	110 V DC 2CO
Rated voltage	12 V DC	24 V DC	48 V DC	110 V DC
DC Response/dropout Volt	8,4 V / 1,2 V	16,8 V / 2,4 V	33,6 V / 4,8 V	77 V / 11 V
Power rating	400 mW	400 mW	400 mW	400 mW
Rated current DC	33,3 mA	16,7 mA	8,7 mA	4,1 mA
Coil resistance	360 Ω $\pm$ 10%	1440 Ω $\pm$ 10%	5520 Ω $\pm$ 10%	26600 Ω $\pm$ 12%

Ordering data Relais

Standard	Type	RCI424012	RCI424024	RCI424048	RCI424110
	Order No.	8869870000	8869890000	8869900000	8869910000
with test button	Type	RCI484012	RCI484024	RCI484048	RCI484110
	Order No.	8870020000	8870030000	8870040000	8870050000
with LED + protective diode*	Type	RCI424AB2	RCI424AC4	RCI424AE8	RCI424BB0
	Order No.	8870170000	8870180000	8870190000	8870200000
with test button + LED	Type	RCI484AB2	RCI484AC4	RCI484AE8	RCI484BB0
+ protective diode*	Order No.	8870310000	8870320000	8870330000	8870340000

Note

*Protective diode only with DC input

Ordering data

Input	24 V AC 2CO	115 V AC 2CO	230 V AC 2CO	
Rated voltage	24 V AC	115 V AC	230 V AC	
AC Response/dropout Volt	18 V / 3,6 V	86,3 V / 17,3 V	172,5 V / 34,5 V	
Power rating	0,75 VA	0,75 VA	0,75 VA	
Rated current AC	31,6 mA	6,6 mA	3,2 mA	
Coil resistance	350 Ω $\pm$ 10%	8100 Ω $\pm$ 15%	32500 Ω $\pm$ 15%	

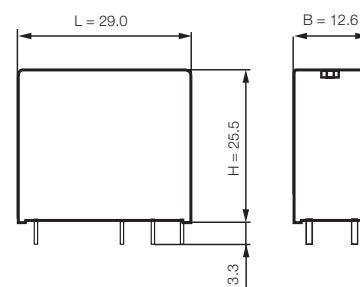
Ordering data Relais

Standard	Type	RCI424524	RCI424615	RCI424730	
	Order No.	8869920000	8869930000	8869940000	
with test button	Type	RCI484524	RCI484615	RCI484730	
	Order No.	8870060000	8870070000	8870080000	
with LED	Type	RCI424R24	RCI424S15	RCI424T30	
	Order No.	8870210000	8870220000	8870230000	
with test button + LED	Type	RCI484R24	RCI484S15	RCI484T30	
	Order No.	8870350000	8870360000	8870370000	

Note

RCH Safety Relay DC coil

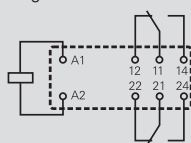
- Relay with positively driven contacts to EN 50205
- 2 CO contacts or 1 NOC + 1 NCC
- 1500 VA switching capacity
- 6 kV impulse withstand voltage



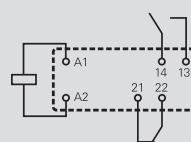
Circuit diagram

Circuit diagram
View of connections

2 changeover contacts



1 NOC + 1 NCC



Output

max. switching voltage AC	250 V
Continuous current	6 A
Contact base material	AgNi
Mechanical endurance	10x10 ⁶ switching cycles
Response time / Drop-out time	10 ms / 4 ms

Rated data

Status indicator/Free wheel diode	no/no
Operating temperature	-25 °C...+70 °C
Approvals	cURus;

Insulation coordination (IEC 60664)

Rated voltage	250 V
Creepage and clearance path input - output	8 mm
Overvoltage category	III
Pollution severity	2
Protective separation to VDE 0106 part 101	yes

Dimensions

Length x width x height	mm	29 / 12.6 / 25.5
-------------------------	----	------------------

Note

Ordering data

Input				
Rated voltage	12 V DC	24 V DC	12 V DC	24 V DC
Rated current AC				
Rated current DC	58,3 mA	29,2 mA	58,3 mA	29,2 mA
Power rating	700 mW	700 mW	700 mW	700 mW
AC Response/dropout Volt				
DC Response/dropout Volt	9.0 V / 1.2 V	18.0 V / 2.4 V	9.0 V / 1.2 V	18.0 V / 2.4 V

Ordering data

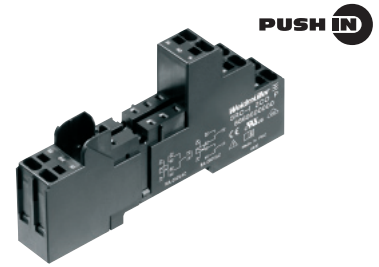
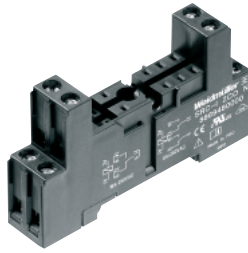
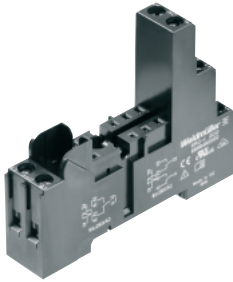
Drawing Data		Drawing Data		Drawing Data		Drawing Data	
NCC/NOC	Type				RCH S51012		RCH S51024
	Order No.				8768670000		8768700000
CO contact	Type	RCH S21012	RCH S21024				
	Order No.	8768660000	8768680000				

Ordering data

Note

Accessories for RCI relays

Plug-in module with screw or Push In connection



Ordering data

Description
Plug-in module with screw connections (only for RCL relays), pitch 3.5 mm, snaps onto DIN mounting rail, 1-pole
Plug-in module with screw connections, pitch 5 mm, snaps onto DIN mounting rail, 2-pole
Plug-in module with screw connections, pitch 5 mm, snaps onto DIN mounting rail, 2-pole
Plug-in module with Push In connections, pitch 5 mm, snaps onto DIN mounting rail, 2-pole

Type	Qty.	Order No.
SRC-I 1CO	10	8869470000
SRC-I 2CO	10	8869490000
SRC-I 2CO N	10	8869480000
SRC-I 2CO P	10	8869500000

Technical data

Nominal current	1-pole	12 A
	2-pole	2 x 12 A*)
Nominal voltage		240 V~
Dielectric strength, screw/Push In connection		>3000 Veff / 4000 Veff
Ambient temperature		-25 °C ... +85 °C
Ingress protection		IP 20
Connection cross-section (screw connection) / with ferrules		2 x 2.5 mm ² / 2 x 1.5 mm ²
Connection cross-section (Push In conn.) / with ferrules		2 x 1.5 mm ² / 2 x 1.0 mm ²
Terminal torque / max.		0.5 Nm / 0.7 Nm

*) With 1-pole relays (16 A), the following terminal connections are required: 11 with 21, 12 with 22, 14 with 24.

Insulation according to IEC 60644-1

Rated voltage	250 V
Pollution severity	2
Overvoltage category	III

Accessories

Description	Type	Qty.	Order No.
Plastic retaining	SRC-I CLIP HP	10	8869510000
Marking tag	SRC-I MARK	10	8869530000
Multicard 6 x 15 mm	ESG 6/15 K MC NEUTR. WS	200	1880100000
Cross-connector	SRC-I QV	10	8870840000

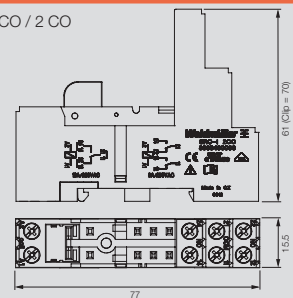
LED and protection modules for SRC-I

Plug simply into the base module; reverse-connect protection. Connect parallel to coil.

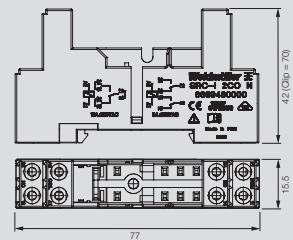
Ordering data

Description	Type	Qty.	Order No.	Order No.
Free Wheel diode 1N4007	RIM-I 1 6/230V	10	8869580000	
Resistor 62 kOhm 1 Watt	RIM-I 1 R 110/230V	10	8870830000	
RC element 6 ... 60 V AC	RIM-I 3 6/60VAC	10	8869770000	
RC element 110 ... 230 V AC	RIM-I 3 110/230VAC	10	8869790000	
Varistor protection 24 V	RIM-I 4 24VUC	10	8869710000	
Varistor protection 110 V	RIM-I 4 110VUC	10	8869730000	
Varistor protection 230 V	RIM-I 4 230VUC	10	8869750000	
LED			red	green
LED 6 ... 24 V DC with free wheel diode	RIM-I 2 6/24VDC	10	8869590000	8869600000
LED 24 ... 60 V DC with free wheel diode	RIM-I 2 24/60VDC	10	8869670000	8869680000
LED 110 ... 230 V DC with free wheel diode	RIM-I 2 110/230VDC	10	8869690000	8869700000
LED 6 ... 24 V DC / V AC	RIM-I 3 6/24VUC	10	8869630000	8869640000
LED 24 ... 60 V DC / V AC	RIM-I 3 24/60VUC	10	8869610000	8869620000
LED 110 ... 230 V DC / V AC	RIM-I 3 110/230VUC	10	8869650000	8869660000

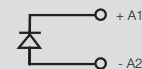
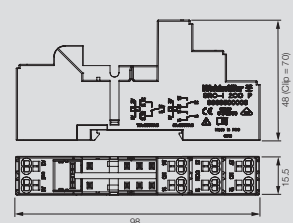
SRC-I 1CO / 2 CO



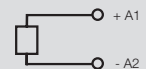
SRC-I 2CO N



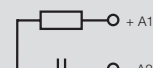
SRC-I 2CO P



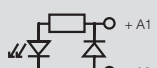
RIM 1



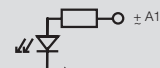
RIM 1 R



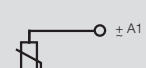
RIM 3 RC



RIM 2



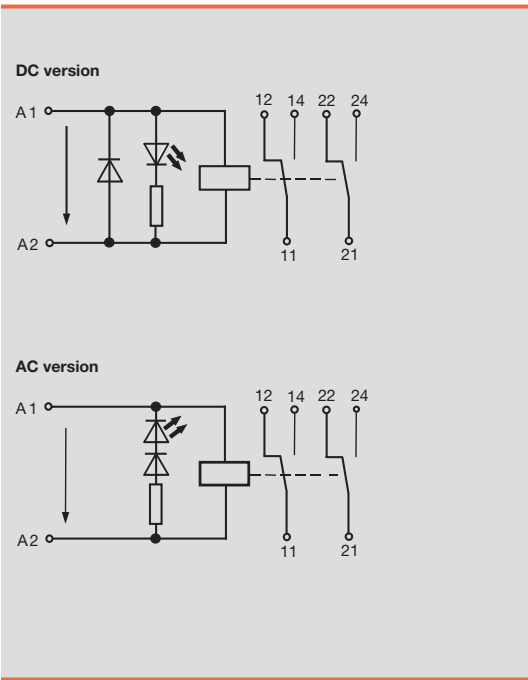
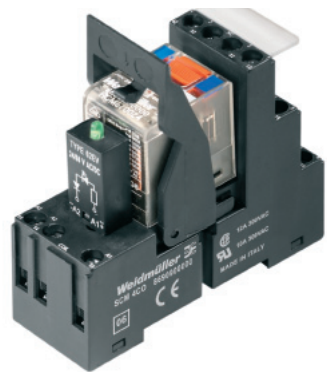
RIM 3 LED



RIM 4

RCM KIT
2 CO contact
AC/DC coil

- Modular system comprising
- relay socket for rail mounting
 - LED indicator unit
 - retaining clip
 - plug-in relay
 - markers



Output	
max. switching voltage AC	250 V
Continuous current	12 A
Contact base material	AgNi 90/10
Mechanical endurance	AC coil 20x10 ⁶ / DC coil 30x10 ⁶ switching operations
Response time / Drop-out time	15ms / 10ms
Rated data	
Status indicator/Free wheel diode	Green LED = DC coil; red LED = AC coil/Yes
Operating temperature	-40 °C...+70 °C
UL 94 flammability rating	V-0
Approvals	CE
Insulation coordination (IEC 60664)	
Rated voltage	240 V
Creepage and clearance path input - output	≤ 4mm
Overvoltage category	III
Pollution severity	2

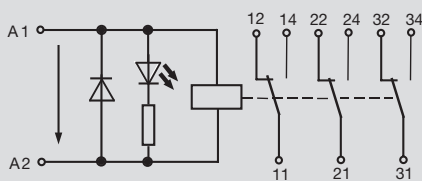
Ordering data		24 V DC 2CO LED	24 V AC 2CO LED	115 V AC 2CO	230 V AC 2CO LED
Input		24 V DC	24 V AC	115 V AC	230 V AC
Rated voltage		24 V DC	24 V AC	115 V AC	230 V AC
Rated current AC		31,3 mA	41,6 mA	8,8 mA	4,3 mA
Rated current DC		31,3 mA			
Power rating		750 mW	1,0 VA	1,0 VA	1,0 VA
AC Response/dropout Volt			19,2 V / 7,2 V	92 V / 34,5 V	184,0 V / 69,0 V
DC Response/dropout Volt		18,0 V / 2,4 V			
Ordering data					
Complete module					
Screw connection	Type	RCMKIT 24VDC 2CO LED GN	RCMKIT 24VAC 2CO LED RT	RCMKIT 115VAC 2CO LEDRT	RCMKIT 230VAC 2CO LED RT
	Order No.	7940007061	7940007113	8810130000	7940007116
Tension clamp connection	Type				
	Order No.				
Ordering data					
Spare relay, pluggable					
	Type	RCM270024	RCM270524	RCM270615	RCM270730
	Order No.	8689860000	8689760000	8689800000	8689820000
Note					

RCM KIT 3 CO contact AC/DC coil

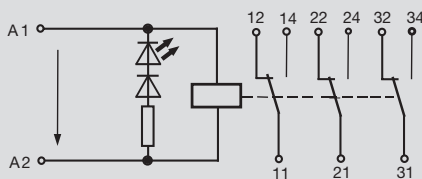
- Modular system comprising
- relay socket for rail mounting
 - LED indicator unit
 - retaining clip
 - plug-in relay
 - markers



DC version



AC version



Output

max. switching voltage AC	250 V
Continuous current	10 A
Contact base material	AgNi 90/10
Mechanical endurance	AC coil 20x10 ⁶ / DC coil 30x10 ⁶ switching operations
Response time / Drop-out time	15ms / 10ms

Rated data

Status indicator/Free wheel diode	Green LED = DC coil; red LED = AC coil/Yes
Operating temperature	-40 °C...+70 °C
UL 94 flammability rating	V-0
Approvals	CE

Insulation coordination (IEC 60664)

Rated voltage	240 V
Creepage and clearance path input - output	≤ 4mm
Overvoltage category	III
Pollution severity	2

Dimensions	Screw connection	Tension clamp connection
Clamping range (rating- / min. / max.)	mm ² 2.5 / 0.5 / 2.5	
Length x width x height	mm 75 / 27 / 82	

Note

Ordering data

Input	24 V DC 3CO LED	24 V AC 3CO LED	115 V AC 3CO LED	230 V AC 3CO LED
Rated voltage	24 V DC	24 V AC	115 V AC	230 V AC
Rated current AC		41,6 mA	8,8 mA	4,3 mA
Rated current DC	31,3 mA			
Power rating	750 mW	1,0 VA	1,0 VA	1,0 VA
AC Response/dropout Volt		19,2 V / 7,2 V	92 V / 34,5 V	184,0 V / 69,0 V
DC Response/dropout Volt	18,0 V / 2,4 V			

Ordering data

Complete module

Screw connection	Type	RCMKIT 24VDC 3CO LED GN	RCMKIT 24VAC 3CO LED RT	RCMKIT 115VAC 3CO LEDRT	RCMKIT 230VAC 3CO LED RT
Order No.		7940007062	7940007114	8810140000	7940007117
Tension clamp connection	Type				
Order No.					

Ordering data

Spare relay, pluggable

Type	RCM370024	RCM370524	RCM370615	RCM370730
Order No.	8690040000	8690030000	8689980000	8690000000

Note

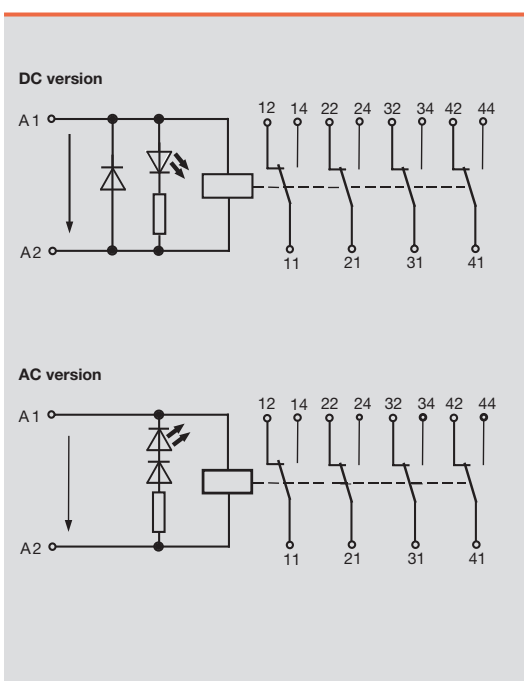
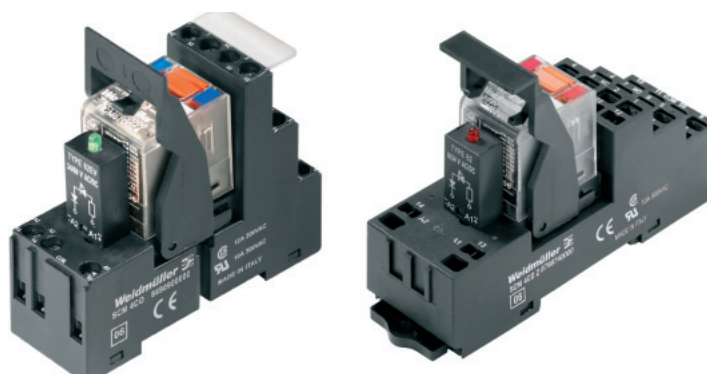
RCM KIT 4 CO contact AC/DC coil

Modular system comprising

- relay socket for rail mounting
- LED indicator unit
- retaining clip
- plug-in relay
- markers

Choice of connection system:

- screw or tension clamp



Output	
max. switching voltage AC	250 V
Continuous current	6 A
Contact base material	AgNi 90/10
Mechanical endurance	AC coil 20x10 ⁶ / DC coil 30x10 ⁶ switching operations
Response time / Drop-out time	15ms / 10ms
Rated data	
Status indicator/Free wheel diode	Green LED = DC coil; red LED = AC coil/Yes
Operating temperature	-40 °C...+70 °C
UL 94 flammability rating	V-0
Approvals	CE
Insulation coordination (IEC 60664)	
Rated voltage	240 V
Creepage and clearance path input - output	≤ 3mm
Overvoltage category	III
Pollution severity	2
Dimensions	
	Screw connection
Clamping range (rating- / min. / max.)	mm ² 2.5 / 0.5 / 2.5
Length x width x height	mm 75 / 27 / 82
	Tension clamp connection
Clamping range (rating- / min. / max.)	mm ² 1.5 / 0.5 / 1.5
Length x width x height	mm 96 / 31 / 60
Note	

Ordering data

Input	24 V DC 4CO LED	24 V AC 4CO LED	115 V AC 4CO LED	230 V AC 4CO LED
Rated voltage	24 V DC	24 V AC	115 V AC	230 V AC
Rated current AC		41,6 mA	8,8 mA	4,3 mA
Rated current DC	31,3 mA			
Power rating	750 mW	1,0 VA	1,0 VA	1,0 VA
AC Response/dropout Volt		19,2 V / 7,2 V	92 V / 34,5 V	184,0 V / 69,0 V
DC Response/dropout Volt	18,0 V / 2,4 V			

Ordering data Complete module

Screw connection	Type	RCMKIT 24VDC 4CO LED GN	RCMKIT 24VAC 4CO LED RT	RCMKIT 115VAC 4CO LEDRT	RCMKIT 230VAC 4CO LED RT
Order No.		7940007063	7940007115	8810150000	7940007118
Tension clamp connection	Type	RCMKITZ 24VDC 4CO LED	RCMKITZ 24VAC 4CO LED	RCMKITZ 115VAC 4CO LDRT	RCMKITZ 230VAC 4CO LED
Order No.		8798740000	8798750000	8810080000	8798760000

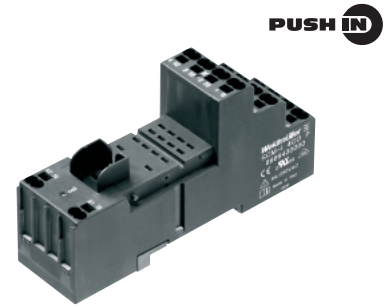
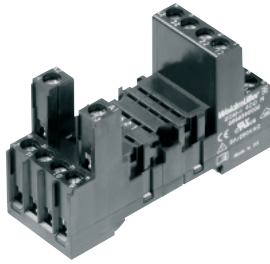
Ordering data Spare relay, pluggable

Type	RCM570024	RCM570524	RCM570615	RCM570730
Order No.	8690200000	8690110000	1180800000	1181100000

Note				
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Accessories for miniature relays RCM-I

Plug-in module with screw or Push In connection



Ordering data

Description
Plug-in module with screw connections, snap-on installation, 2-pole
Plug-in module with screw connections, snap-on installation, 3-pole
Plug-in module with screw connections, snap-on installation, 4-pole
Plug-in module with screw connections, snaps onto DIN mounting rails, 4-pole
Plug-in module with Push In connections, snaps onto DIN mounting rails, 4-pole

Type	Qty.	Order No.
SCM-I 2CO	10	8869400000
SCM-I 3CO N	10	8869410000
SCM-I 4CO	10	8869420000
SCM-I 4CO N	10	8869390000
SCM-I 4CO P	10	8869430000

Technical data

Nominal current
Nominal voltage
Dielectric strength, coil/contacts
Insulation group (VDE 0110b)
Ambient temperature
Protection class (IEC 61810)
Connection cross-section (Push In connections) / with ferrules
Connection cross-section (screw connections) / with ferrules
Terminal torque (screw connection)
Max.

4-pole 6 A, 3-pole 10 A, 2-pole 12 A
300 V AC
> 2500 Veff
C / 250 V AC
-45 ... +70 °C ¹⁾
IP 20
2 x 1.5 mm ² / 2 x 1.0 mm ²
2 x 2.5 mm ² / 2 x 1.5 mm ²
0.5 Nm
0.7 Nm

¹⁾ At nominal current up to +40 °C, up to +70 °C at 70 %

Accessories

Description
Plastic retaining clip
Metal retaining clip
Markers, individual
Markers, MultiCard
Cross-connector

Type	Qty.	Order No.
SCM-I CLIP P	10	8869440000
SCM-I CLIP M	10	8869450000
SCM-I MARK	10	8869460000
ESG 6/15 MC RIDERSERIES	200	1881280000
SCM-I QV	10	8870850000

LED and protection modules for SCM-I

Plug simply into the base module; reverse-connect protection. Connect parallel to coil.

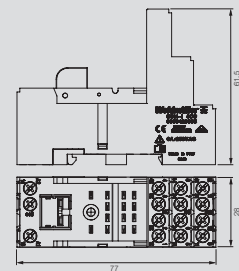
Ordering data

Description
Free Wheel diode 1N4007
Resistor 62 kOhm 1 Watt
RC element 6 ... 60 V AC
RC element 110 ... 230 V AC
Varistor protection 24 V
Varistor protection 110 V
Varistor protection 230 V
LED
LED 6 ... 24 V DC with free wheel diode
LED 24 ... 60 V DC with free wheel diode
LED 110 ... 230 V DC with free wheel diode
LED 6 ... 24 V DC / V AC
LED 24 ... 60 V DC / V AC
LED 110 ... 230 V DC / V AC

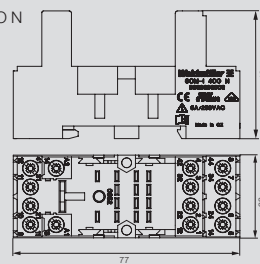
Type	Qty.	Order No.	Order No.
RIM-I 1 6/230V	10	8869580000	
RIM-I 1 R 110/230V	10	8870830000	
RIM-I 3 6/60VAC	10	8869770000	
RIM-I 3 110/230VAC	10	8869790000	
RIM-I 4 24VUC	10	8869710000	
RIM-I 4 110VUC	10	8869730000	
RIM-I 4 230VUC	10	8869750000	
		red	green
RIM-I 2 6/24VDC	10	8869590000	8869600000
RIM-I 2 24/60VDC	10	8869670000	8869680000
RIM-I 2 110/230VDC	10	8869690000	8869700000
RIM-I 3 6/24VUC	10	8869630000	8869640000
RIM-I 3 24/60VUC	10	8869610000	8869620000
RIM-I 3 110/230VUC	10	8869650000	8869660000

Dimensions in mm

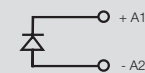
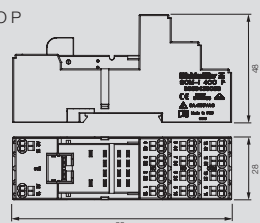
SCM-I 4CO



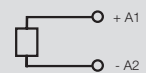
SCM-I 4CO N



SCM-I 4CO P



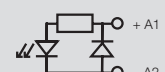
RIM 1



RIM 1 R



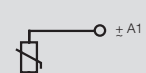
RIM 3 RC



RIM 2



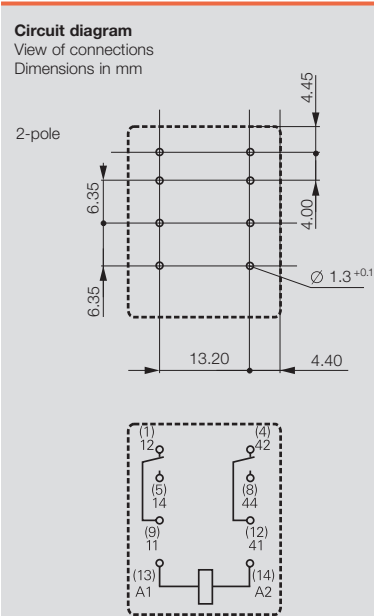
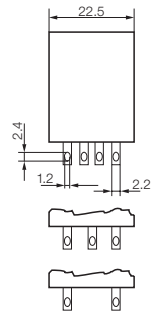
RIM 3 LED



RIM 4

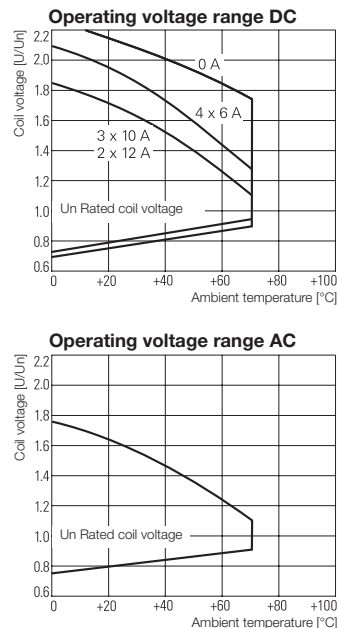
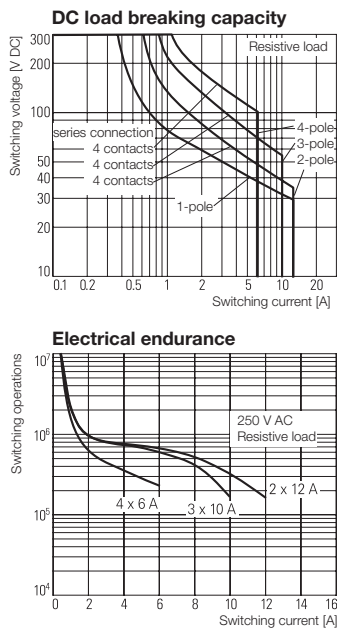
RCM relay
2 CO contact
AC/DC coil

- 3000 VA switching capacity
- Solder and plug connection
- Safe-to-touch test button, selectable locking
- White labelling panel



Output	
max. switching voltage AC	250 V
Continuous current	12 A
Contact base material	AgNi 90/10
Mechanical endurance	AC coil 20x10 ⁶ / DC coil 30x10 ⁶ switching operations
Response time / Drop-out time	15ms / 10ms
Rated data	
Status indicator / Free wheel diode	see ordering data
Operating temperature	-40 °C...+70 °C
UL 94 flammability rating	V-0
Approvals	cURus; CE; VDE;
Insulation coordination (IEC 60664)	
Rated voltage	240 V
Creepage and clearance path input - output	≤ 4mm
Overvoltage category	III
Pollution severity	3
Dimensions	
Length x width x height	mm 28 / 22.5 / 29
Note	

Applications



RCM relay
2 CO contact
AC/DC coil
Type code
Type RIDER Control Multiple

Contacts

- 2 2 CO contacts
- 3 3 CO contacts
- 5 4 CO contacts

Contact material

- 7 AgNi 90/10, with test button
- 8 AgNi 90/10 hgp, with test button

Type of construction

- 0 Standard, 2.8 mm Faston
- 1 Print connections

RCM

DC coil

- 006 6 V DC
- 012 12 V DC
- 024 24 V DC
- 048 48 V DC
- 060 60 V DC
- 110 110 V DC
- 220 220 V DC

AC coil

- 506 6 V AC
- 512 12 V AC
- 524 24 V AC
- 548 48 V AC
- 615 115 V AC
- 730 230 V AC

Ordering data

Input	12 V DC 2CO	24 V DC 2CO	48 V DC 2CO	110 V DC 2CO
Rated voltage	12 V DC	24 V DC	48 V DC	110 V DC
DC Response/dropout Volt	9.0 V / 1.2 V	18.0 V / 2.4 V	36.0 V / 4.8 V	82.5 V / 11.0 V
Power rating	750 mW	750 mW	750 mW	750 mW
Rated current DC	62.5 mA	31.3 mA	15.6 mA	6.8 mA
Coil resistance	192 Ω $\pm$ 10%	777 Ω $\pm$ 10%	3072 Ω $\pm$ 10%	16133 Ω $\pm$ 15%

Ordering data				
Relay				
without LED Type	RCM270012	RCM270024	RCM270048	RCM270110
AgNi 90/10 Order No.	8689840000	8689860000	8689880000	8689900000
with LED Type	RCM270L12	RCM270L24	RCM270L48	RCM270M10
AgNi 90/10 Order No.	8689850000	8689870000	8689890000	8689910000
Type				
Order No.				

Note				
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Ordering data

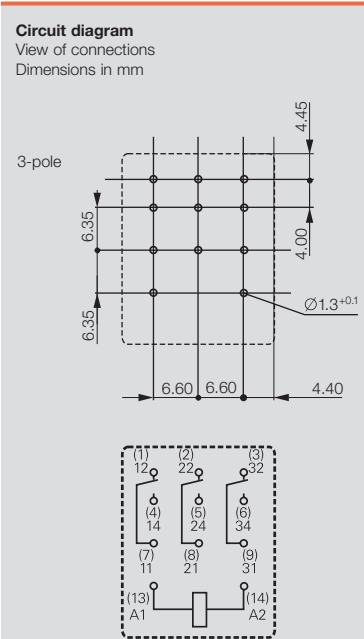
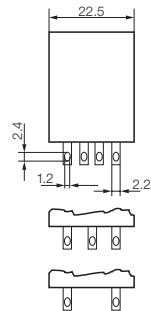
Input	24 V AC 2CO	48 V AC 2CO	115 V AC 2CO	230 V AC 2CO
Rated voltage	24 V AC	48 V AC	115 V AC	230 V AC
AC Response/dropout Volt	38.4 V / 14.4 V	48.0 V / 18.0 V	92.0 V / 34.5 V	184.0 V / 69.0 V
Power rating	1,0 VA	1,0 VA	1,0 VA	1,0 VA
Rated current AC	41.6 mA	21.3 mA	8.8 mA	4.3 mA
Coil resistance	192 Ω $\pm$ 10%	777 Ω $\pm$ 10%	4845 Ω $\pm$ 12%	19465 Ω $\pm$ 15%

Ordering data				
Relay				
without LED Type	RCM270524	RCM270548	RCM270615	RCM270730
AgNi 90/10 Order No.	8689760000	8689780000	8689800000	8689820000
with LED Type	RCM270R24	RCM270R48	RCM270S15	RCM270T30
AgNi 90/10 Order No.	8689770000	8689790000	8689810000	8689830000
Type				
Order No.				

Note				
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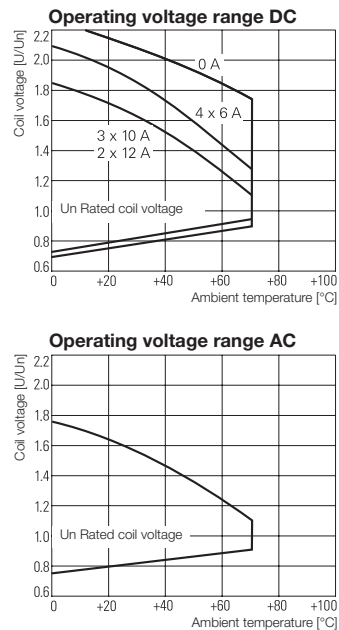
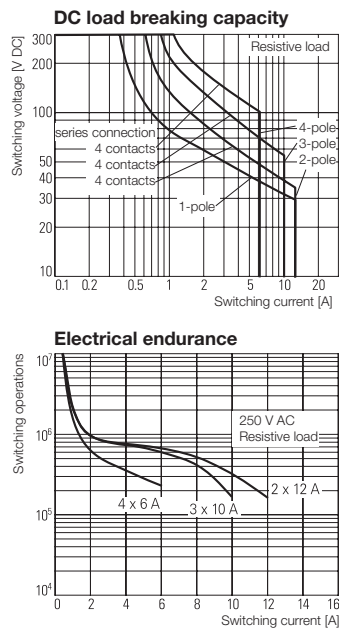
RCM relay
3 CO contact
AC/DC coil

- 2500 VA switching capacity
- Solder and plug connection
- Safe-to-touch test button, selectable locking
- White labelling panel



Output	
max. switching voltage AC	250 V
Continuous current	10 A
Contact base material	AgNi 90/10
Mechanical endurance	AC coil 20x10 ⁶ / DC coil 30x10 ⁶ switching operations
Response time / Drop-out time	15ms / 10ms
Rated data	
Status indicator / Free wheel diode	see ordering data
Operating temperature	-40 °C...+70 °C
UL 94 flammability rating	V-0
Approvals	cURus; CE; VDE;
Insulation coordination (IEC 60664)	
Rated voltage	240 V
Creepage and clearance path input - output	≤ 4mm
Overvoltage category	III
Pollution severity	3
Dimensions	
Length x width x height	mm 28 / 22.5 / 29
Note	

Applications



RCM relay
3 CO contact
AC/DC coil

Type code

Type **RIDER Control Multiple**

Contacts

- 2 2 CO contacts
 3 3 CO contacts
 5 4 CO contacts

Contact material

- 7 AgNi 90/10, with test button
 8 AgNi 90/10 hgp, with test button

Type of construction

- 0 Standard, 2.8 mm Faston
 1 Print connections

RCM

DC coil

- 006 6 V DC
 012 12 V DC
 024 24 V DC
 048 48 V DC
 060 60 V DC
 110 110 V DC
 220 220 V DC

AC coil

- 506 6 V AC
 512 12 V AC
 524 24 V AC
 548 48 V AC
 615 115 V AC
 730 230 V AC

Ordering data

Input	12 V DC 3CO	24 V DC 3CO	48 V DC 3CO	110 V DC 3CO
Rated voltage	12 V DC	24 V DC	48 V DC	110 V DC
DC Response/dropout Volt	9.0 V / 1.2 V	18.0 V / 2.4 V	36.0 V / 4.8 V	82.5 V / 11.0 V
Power rating	750 mW	750 mW	750 mW	750 mW
Rated current DC	62.5 mA	31.3 mA	15.6 mA	6.8 mA
Coil resistance	192 Ω $\pm$ 10%	777 Ω $\pm$ 10%	3072 Ω $\pm$ 10%	16133 Ω $\pm$ 15%

Ordering data Relay				
without LED Type	RCM370012	RCM370024	RCM370048	RCM370110
AgNi 90/10 Order No.	8690020000	8690040000	8690060000	8690080000
with LED Type	RCM370L12	RCM370L24	RCM370L48	RCM370M10
AgNi 90/10 Order No.	8694310000	8690050000	8689940000	8690090000
Type				
Order No.				

Note				

Ordering data

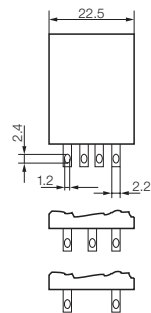
Input	24 V AC 3CO	48 V AC 3CO	115 V AC 3CO	230 V AC 3CO
Rated voltage	24 V AC	48 V AC	115 V AC	230 V AC
AC Response/dropout Volt	19.2 V / 7.2 V	38.4 V / 14.4 V	92.0 V / 34.5 V	184.0 V / 69.0 V
Power rating	1,0 VA	1,0 VA	1,0 VA	1,0 VA
Rated current AC	41.6 mA	21.3 mA	8.8 mA	4.3 mA
Coil resistance	192 Ω $\pm$ 10%	777 Ω $\pm$ 10%	4845 Ω $\pm$ 12%	19465 Ω $\pm$ 15%

Ordering data Relay				
without LED Type	RCM370524	RCM370548	RCM370615	RCM370730
AgNi 90/10 Order No.	8690030000	on request	8689980000	8690000000
with LED Type	RCM370R24	RCM370R48	RCM370S15	RCM370T30
AgNi 90/10 Order No.	8689950000	8689970000	8689990000	8690010000
Type				
Order No.				

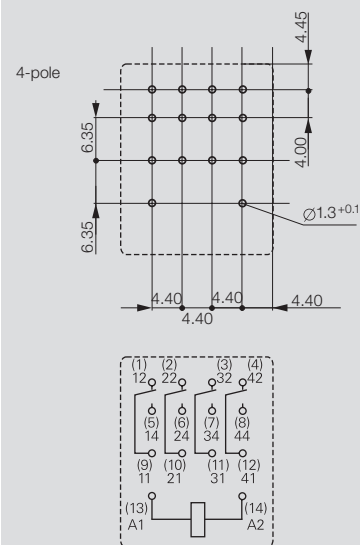
Note				

RCM relay
4 CO contact
AC/DC coil

- 1500 VA switching capacity
- Solder and plug connection
- AC/DC versions also with gold-plated contacts
- Safe-to-touch test button, selectable locking
- White labelling panel

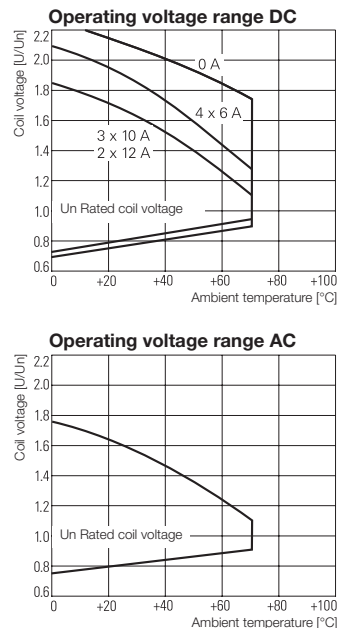
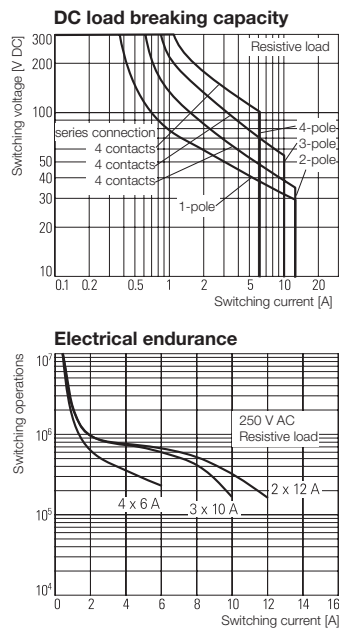


Circuit diagram
View of connections
Dimensions in mm



Output	
max. switching voltage AC	250 V
Continuous current	6 A
Contact base material	AgNi 90/10 or AgNi 5µm Au
Mechanical endurance	AC coil 20x10 ⁶ / DC coil 30x10 ⁶ switching operations
Response time / Drop-out time	15ms / 10ms
Rated data	
Status indicator / Free wheel diode	see ordering data
Operating temperature	-40 °C...+70 °C
UL 94 flammability rating	V-0
Approvals	cURus; CE; VDE;
Insulation coordination (IEC 60664)	
Rated voltage	240 V
Creepage and clearance path input - output	≤ 3mm
Overvoltage category	III
Pollution severity	2
Dimensions	
Length x width x height	mm 28 / 22.5 / 29
Note	

Applications



RCM relay
4 CO contact
AC/DC coil

Type code

RCM

Type **RIDER Control Multiple**

Contacts

- 2 2 CO contacts
- 3 3 CO contacts
- 5 4 CO contacts

Contact material

- 7 AgNi 90/10, with test button
- 8 AgNi 90/10 hgp, with test button

Type of construction

- 0 Standard, 2.8 mm Faston
- 1 Print connections

DC coil

- 006 6 V DC
- 012 12 V DC
- 024 24 V DC
- 048 48 V DC
- 060 60 V DC
- 110 110 V DC
- 220 220 V DC

AC coil

- 506 6 V AC
- 512 12 V AC
- 524 24 V AC
- 548 48 V AC
- 615 115 V AC
- 730 230 V AC

Ordering data

Input	12 V DC 4CO	24 V DC 4CO	48 V DC 4CO	110 V DC 4CO
Rated voltage	12 V DC	24 V DC	48 V DC	110 V DC
DC Response/dropout Volt	9.0 V / 1.2 V	18 V / 2.4 V	36 V / 4.8 V	82.5 V / 11 V
Power rating	750 mW	750 mW	750 mW	750 mW
Rated current DC	62.5 mA	31,3 mA	15.6 mA	6.8 mA
Coil resistance	192 Ω $\pm$ 10%	777 Ω $\pm$ 10%	3072 Ω $\pm$ 10%	16133 Ω $\pm$ 15%

Ordering data Relay				
without LED Type	RCM570012	RCM570024	RCM570048	RCM570110
AgNi 90/10 Order No.	8054360000	8690200000	8074670000	8074700000
with LED Type	RCM570L12	RCM570L24	RCM570L48	RCM570M10
AgNi 90/10 Order No.	8690180000	8690220000	8690230000	8690240000
without LED Type	RCM580012	RCM580024	RCM580048	RCM580110
AgNi 5 μ m Au Order No.	on request	8694460000	on request	8829000000

Note				

Ordering data

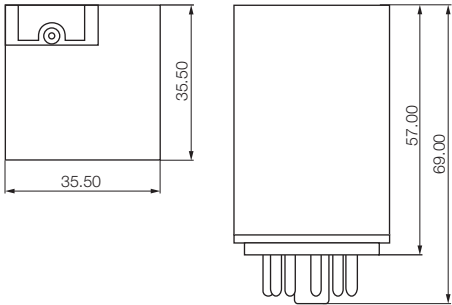
Input	24 V AC 4CO	48 V AC 4CO	115 V AC 4CO	230 V AC 4CO
Rated voltage	24 V AC	48 V AC	115 V AC	230 V AC
AC Response/dropout Volt	19,2 V / 7,2 V	38,4 V / 14,4 V	92 V / 34,5 V	184 V / 69 V
Power rating	1,0 VA	1,0 VA	1,0 VA	1,0 VA
Rated current AC	41,6 mA	21,3 mA	8,8 mA	4,3 mA
Coil resistance	192 Ω $\pm$ 10%	777 Ω $\pm$ 10%	4845 Ω $\pm$ 12%	19465 Ω $\pm$ 15%

Ordering data Relay				
without LED Type	RCM570524	RCM570548	RCM570615	RCM570730
AgNi 90/10 Order No.	8690110000	1180900000	1180800000	1181100000
with LED Type	RCM570R24	RCM570R48	RCM570S15	RCM570T30
AgNi 90/10 Order No.	8690120000	8690130000	8690150000	8690160000
without LED Type	RCM580524		RCM580615	RCM580730
AgNi 5 μ m Au Order No.	7940008171		8824860000	7940007637

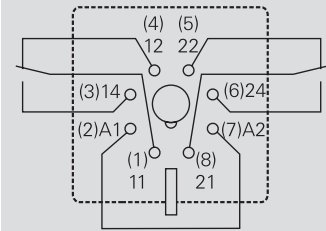
Note				

RRD relay
2 CO contact
AC/DC coil

- 2 change-over contacts
- 2500 VA switching capacity
- Mechanical operating indicator
- Safe-to-touch test button, selectable locking

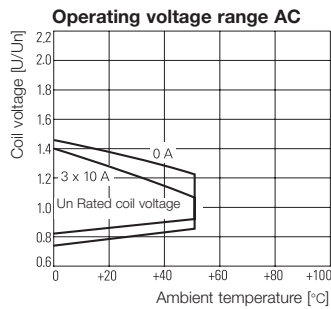
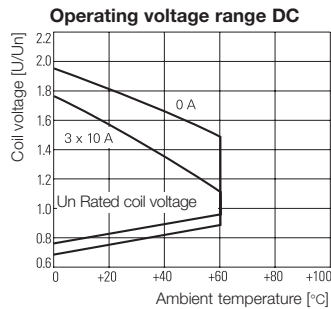
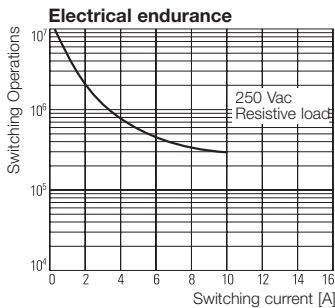
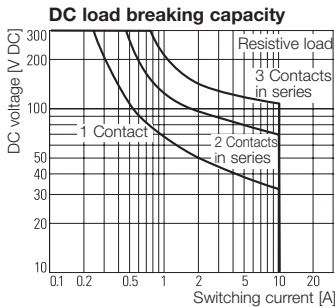


Circuit diagram
View of connections



Output	
max. switching voltage AC	250 V
Continuous current	10 A
Contact base material	AgNi 90/10
Mechanical endurance	20x10 ⁶ switching cycles
Response time / Drop-out time	12 ms / 5 ms
Rated data	
Status indicator/Free wheel diode	mechanical/no
Operating temperature	-45 °C...+50 °C
UL 94 flammability rating	V-0
Approvals	cURus; CE; VDE;
Insulation coordination (IEC 60664)	
Rated voltage	250 V
Creepage and clearance path input - output	≤ 4mm
Overvoltage category	III
Pollution severity	3
Dimensions	
Length x width x height	mm 35.5 / 35.5 / 57
Note	

Applications



RRD relay
2 CO contact
AC/DC coil

Type code

RRD

Type RIDER Round

Contacts

- 2 2 change-over contacts, 8-pole
 3 3 change-over contacts, 11-pole

Contact material

- 2 AgNi 90/10

Type of construction

- 1 DC coil with test button
 3 DC coil with test button and bi-polar LED
 6 AC coil with test button
 8 AC coil with test button and bi-polar LED

DC coil

006	6 V DC	
012	12 V DC	
024	24 V DC	0C4
048	48 V DC	0E8
060	60 V DC	0G0
110	110 V DC	1B0
220	220 V DC	2C0

AC coil

506	6 V AC	
512	12 V AC	
524	24 V AC	
548	48 V AC	
615	115 V AC	
730	230 V AC	

Free wheel
diode

Ordering data

Input	24 V DC 2CO	48 V DC 2CO	110 V DC 2CO	220 V DC 2CO
Rated voltage	24 V DC	48 V DC	110 V DC	220 V DC
DC Response/dropout Volt	18.0 V / 2.4 V	36.0 V / 4.8 V	82.5 V / 11.5 V	165 V / 22 V
Power rating	1,2 W	1,2 W	1,2 W	1,2 W
Rated current DC	50.5 mA	24.0 mA	11.0 mA	5,5 mA
Coil resistance	475 Ω $\pm$ 10%	2000 Ω $\pm$ 10%	10000 Ω $\pm$ 12%	40000 Ω $\pm$ 15%

Ordering data
Relay

with test button	Type	RRD221024	RRD221048	RRD221110	
AgNi 90/10	Order No.	8690370000	8690390000	8690410000	
with test button/LED	Type	RRD223024	RRD223048	RRD223110	RRD223220
AgNi 90/10	Order No.	8690380000	8690400000	8690420000	8798600000
	Type				
	Order No.				

Note

Ordering data

Input	24 V AC 2CO	48 V AC 2CO	115 V AC 2CO	230 V AC 2CO
Rated voltage	24 V AC	48 V AC	115 V AC	230 V AC
AC Response/dropout Volt	19.2 V / 9.6 V	38.4 V / 19.2 V	92.0 V / 46.0 V	184.0 V / 92.0 V
Power rating	2,3 VA	2,3 VA	2,3 VA	2,3 VA
Rated current AC	94.2 mA	47.5 mA	20.6 mA	10.1 mA
Coil resistance	86 Ω $\pm$ 10%	345 Ω $\pm$ 10%	2000 Ω $\pm$ 10%	8300 Ω $\pm$ 12%

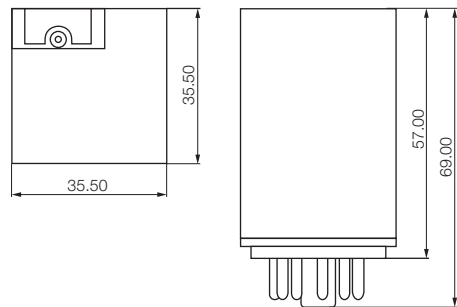
Ordering data
Relay

with test button	Type	RRD226024	RRD226048	RRD226115	RRD226230
AgNi 90/10	Order No.	8690270000	8690290000	8690310000	8690330000
with test button/LED	Type	RRD228024	RRD228048	RRD228115	RRD228230
AgNi 90/10	Order No.	8690280000	8690300000	8690320000	8690340000
	Type				
	Order No.				

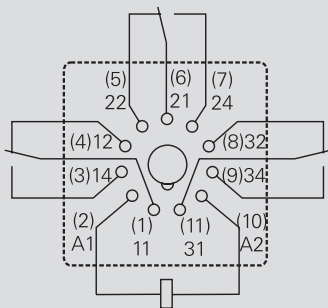
Note

RRD relay
3 CO contact
AC/DC coil

- 3 change-over contacts
- 500 VA switching capacity
- Mechanical operating indicator
- Safe-to-touch test button, selectable locking

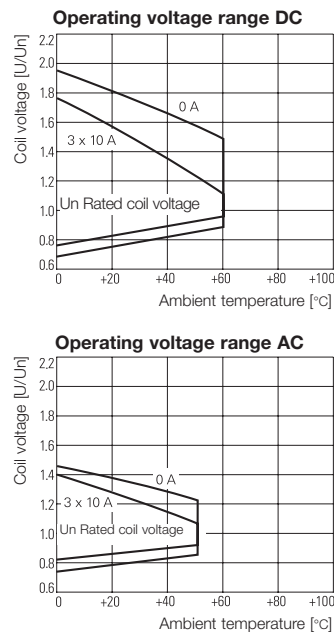
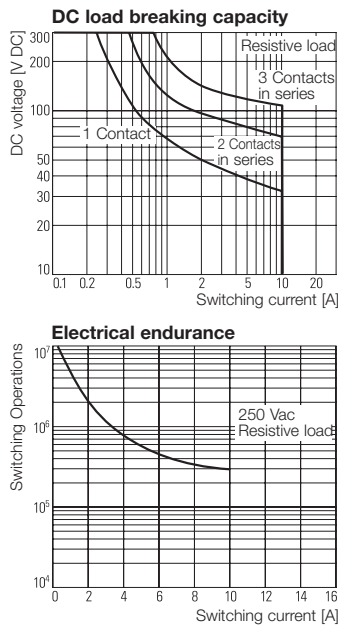


Circuit diagram
View of connections



Output	
max. switching voltage AC	250 V
Continuous current	4 A
Contact base material	AgNi 90/10
Mechanical endurance	20x10 ⁶ switching cycles
Response time / Drop-out time	12 ms / 5 ms
Rated data	
Status indicator/Free wheel diode	mechanical/no
Operating temperature	AC coil -45...+50°C / DC coil -45...+60°C
UL 94 flammability rating	V-0
Approvals	cURus; CE; VDE;
Insulation coordination (IEC 60664)	
Rated voltage	250 V
Creepage and clearance path input - output	≤ 4mm
Overvoltage category	III
Pollution severity	3
Dimensions	
Length x width x height	mm 35.5 / 35.5 / 57
Note	

Applications



RRD relay
3 CO contact
AC/DC coil

Type code

RRD

Type RIDER Round

Contacts

- 2 2 change-over contacts, 8-pole
 3 3 change-over contacts, 11-pole

Contact material

- 2 AgNi 90/10

Type of construction

- 1 DC coil with test button
 3 DC coil with test button and bi-polar LED
 6 AC coil with test button
 8 AC coil with test button and bi-polar LED

DC coil

006	6 V DC	
012	12 V DC	
024	24 V DC	0C4
048	48 V DC	0E8
060	60 V DC	0G0
110	110 V DC	1B0
220	220 V DC	2C0

AC coil

506	6 V AC	
512	12 V AC	
524	24 V AC	
548	48 V AC	
615	115 V AC	
730	230 V AC	

Free wheel
diode

Ordering data

Input	12 V DC 3CO	24 V DC 3CO	110 V DC 3CO	220 V DC 3CO
Rated voltage	12 V DC	24 V DC	110 V DC	220 V DC
DC Response/dropout Volt	9 V / 1,2 V	18 V / 2,4 V	82,5 V / 11,5 V	165 V / 22 V
Power rating	1,2 W	1,2 W	1,2 W	1,2 W
Rated current DC	109,1 mA	50,5 mA	11 mA	5,5 mA
Coil resistance	110 Ω $\pm$ 10%	475 Ω $\pm$ 10%	10000 Ω $\pm$ 12%	40000 Ω $\pm$ 15%

Ordering data
Relay

with test button	Type	RRD321012	RRD321024	RRD321110	RRD321220
AgNi 90/10	Order No.	8799030000	8690610000	8690650000	7940007742
with test button/LED	Type		RRD323024	RRD323110	RRD323220
AgNi 90/10	Order No.		8690620000	8690660000	8798610000
	Type				
	Order No.				

Note

Ordering data

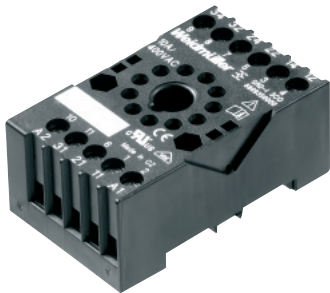
Input	24 V AC 3CO	48 V AC 3CO	115 V AC 3CO	230 V AC 3CO
Rated voltage	24 V AC	48 V AC	115 V AC	230 V AC
AC Response/dropout Volt	19,2 V / 9,6 V	38,4 V / 19,2 V	92 V / 46 V	184 V / 92 V
Power rating	2,3 VA	2,3 VA	2,3 VA	2,3 VA
Rated current AC	94,2 mA	47,5 mA	20,6 mA	10,1 mA
Coil resistance	86 Ω $\pm$ 10%		2000 Ω $\pm$ 10%	8300 Ω $\pm$ 12%

Ordering data
Relay

with test button	Type	RRD326024	RRD326048	RRD326115	RRD326230
AgNi 90/10	Order No.	8690450000	8690470000	8690550000	8690570000
with test button/LED	Type	RRD328024	RRD328048	RRD328115	RRD328230
AgNi 90/10	Order No.	8690460000	8690480000	8690560000	8690580000
	Type				
	Order No.				

Note

Accessories for RRD relays
Plug-in module with screw connection



Ordering data

Description
Plug-in module with screw connections, 8-pole
Plug-in module with screw connections, 11-pole
Contact data
Nominal current
Nominal voltage
Dielectric strength, coil/contacts
Ambient temperature
Ingress protection class (IEC 61810)
Connection cross-section / with ferrules
Terminal torque

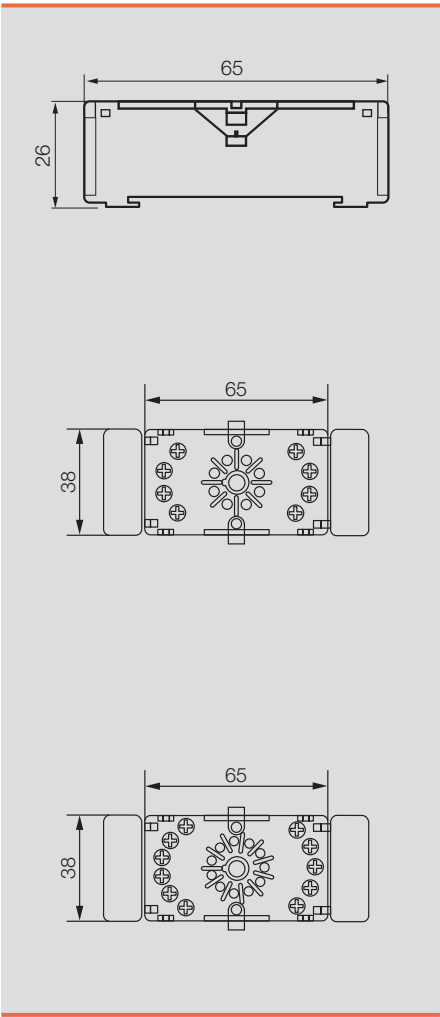
Type	Qty	Order No.
SRD-I 2CO	10	8869360000
SRD-I 3CO	10	8869350000

Retaining clip (metal)

Ordering data
Accessories for
Description
Metal retaining clip, RRD

Type	Order No.
SRD-I CLIP M	8869370000

Dimensions in mm

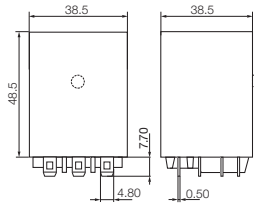


RPW relay
2 CO contact AC/DC coil
3 CO contact AC/DC coil

- 6000 VA switching capacity
- Mechanical indicator
- with and without test button

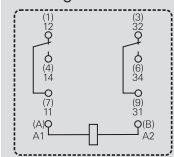


Cap without lug,
plug-in connections

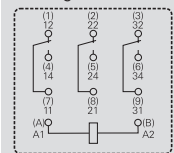


Circuit diagram
View of connections

2 changeover contacts

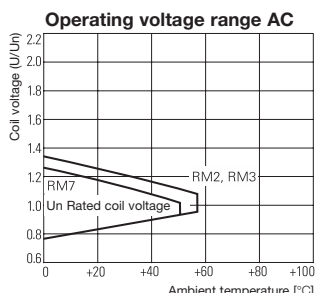
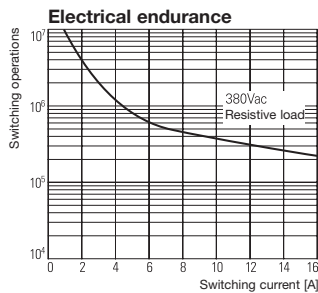
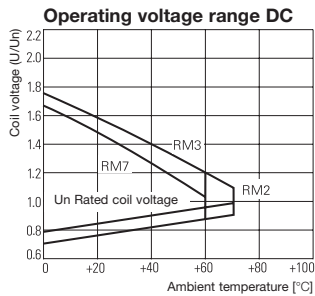
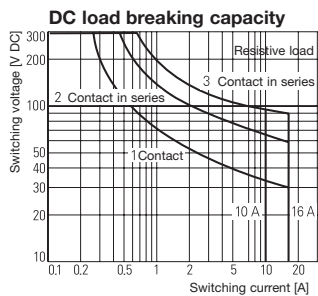


3 changeover contacts



Output	
max. switching voltage AC	400 V
Continuous current	16 A
Contact base material	AgCdO
Mechanical endurance	20x10 ⁶ switching cycles
Response time / Drop-out time	15 ms / 10 ms
Rated data	
Status indicator/Free wheel diode	mechanical/no
Operating temperature	-45 °C...+70 °C
UL 94 flammability rating	V-0
Approvals	cURus; CE; VDE;
Insulation coordination (IEC 60664)	
Rated voltage	400 V
Creepage and clearance path input - output	≤ 6mm
Overvoltage category	III
Pollution severity	3
Dimensions	
Length x width x height	mm 38.5 / 38.5 / 48.5
Note	

Applications



RPW relay
2 CO contact AC/DC coil
3 CO contact AC/DC coil

Type code

RPW

Typ **RIDER PoWer**

Contacts

- 2 2 change-over contacts
 7 3 change-over contacts

Type of construction

- 0 Without test button
 3 With test button ... on request

Housing

- 2 Cap without lug, 4.8 mm Faston

DC coil

- 006 6 V DC
 012 12 V DC
 024 24 V DC
 048 48 V DC
 060 60 V DC
 110 110 V DC

AC coil

- 506 6 V AC
 512 12 V AC
 524 24 V AC
 548 48 V AC
 615 115 V AC
 730 230 V AC

Ordering data

Input	24 V DC 2CO	24 V AC 2CO	115 V AC 2CO	230 V AC 2CO
Rated voltage	24 V DC	24 V AC	115 V AC	230 V AC
DC Response/dropout Volt	18 V / 2.4 V	19.2 V / 9.6 V	92 V / 46 V	184 V / 92 V
Power rating	1,2 W	2,3 VA	2,3 VA	2,3 VA
Rated current DC	50.5 mA	94.2 mA	20,6 mA	10.1 mA
Coil resistance	475 Ω $\pm$ 10%	86 Ω $\pm$ 10%	2000 Ω $\pm$ 10%	8300 Ω $\pm$ 12%

Ordering data
Relay

ohne Prüftaste	Type	RPW202024	RPW202524	RPW202615	RPW202730
AgCdO	Order No.	8690730000	on request	on request	8690720000
	Type				
	Order No.				
	Type				
	Order No.				

Note

Ordering data

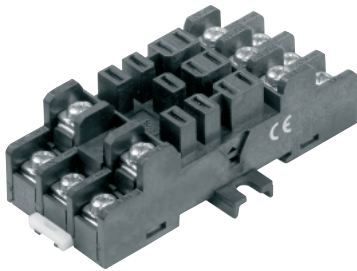
Input	24 V DC 3CO	24 V AC 3CO	115 V AC 3CO	230 V AC 3CO
Rated voltage	24 V DC	24 V AC	115 V AC	230 V AC
DC Response/dropout Volt	18 V / 2.4 V	19.2 V / 9.6 V	92 V / 46 V	184 V / 92 V
Power rating	1,6 W	2,8 VA	2,8 VA	2,8 VA
Rated current DC	69.6 mA	109.2 mA	23 mA	11.7 mA
Coil resistance	345 Ω $\pm$ 10%	80 Ω $\pm$ 10%	1850 Ω $\pm$ 10%	7500 Ω $\pm$ 10%

Ordering data
Relay

ohne Prüftaste	Type	RPW702024	RPW702524	RPW702615	RPW702730
AgCdO	Order No.	8690760000	8690740000	on request	8690750000
	Type				
	Order No.				
	Type				
	Order No.				

Note

Accessories for RPW
Plug-in module with screw connection



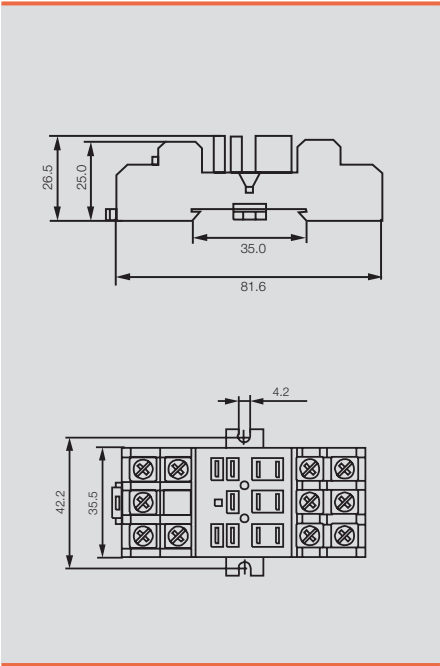
Ordering data

Description
Plug-in module with screw connections

Contact data
Nominal current
Nominal voltage
Dielectric strength, coil/contacts
Ambient temperature
Terminal torque
Max.

Type	Qty	Order No.
SPW 3CO	25	8697680000

Dimensions in mm



Worldwide activities

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