

Housing forms for relays

DK-SERIES



All components of the DKR mini-coupler are extremely slim: the use of the latest surface-mounted devices (SMD) allows us to keep the width to just 6 mm. The mini-couplers support a wide range of applications relating to the coupling of digital sensor/actuator signals with automation devices and the process field. DKR relays are designed to pick up and standardise signals of different voltages from the field.

MICROSERIES



The **MICROSERIES** range integrates the product features of the RSS power relay into the world of terminals. The user therefore benefits from the special features of terminals by retaining a free choice of connection systems, plug-in cross-connections, standardised marking solutions as well as the space saving advantage typical of relays!

RIDERSERIES



The **RIDERSERIES** range represents the successful integration of the families RCL, RCI, RCM, RRD and RPW into the Weidmüller relay programme. This modular series conforms to the international standard. The many pluggable variants are available from 1 way to 4-way changeover contacts with a free choice of connection system.

MCZ-SERIES



The MCZ enclosure is only 6 mm wide and one of the narrowest of its kind. Its outstanding technical features include:

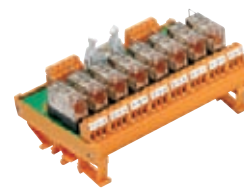
- Tension clamp connection to reduce assembly costs
- Integrated cross-connection in input and output minimizes wiring workload

PLUGSERIES



The **PLUGSERIES** offers you proven product features from the world of connection systems combined with the performance of the Weidmüller RCL power relay. The plug-in cross-connection ZQV enables quick and easy bridging of input and output potentials. Besides a free choice of connection systems, PLUGSERIES products are unique as a result of the Wemid housing material.

RS-SERIES



Clip-on bases with relays RS 30, 31, 32 have a width of 11.2 mm to 25 mm – depending on the type. RSM multiple interfaces are assembled with a choice of 4, 8 or 16 relays. Versions with a common plus or minus potential are available to save wiring on the input side. LP connection elements are equipped with clamping yoke units for screw connection.

WAVESERIES



Innovative electronic components require a housing or enclosure that reflects their specific functions. They must allow adjustment and operation functions and support electro-mechanical requirements such as heat dissipation or electromagnetic compatibility. A compact design saves space in the control cabinet and reduces assembly costs. Ergonomic design is increasingly important for top-quality relay interfaces.

JACKPAC®



JACKPAC® integrates basic functions of signal processing such as amplification, isolation and conversion of signals, but also provides protective functions thanks to packaging to IP68 standard that is compatible with field wiring conditions. This allows you to both realise decentralised wiring concepts without having to accept a compromise solution and optimally use digital input-output modules from the IP6X world.

Relay couplers – an overview

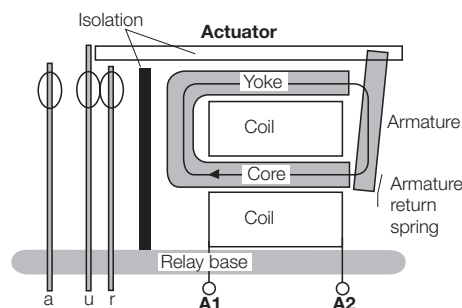
Historical background

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 signalised 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.

Relays – 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.

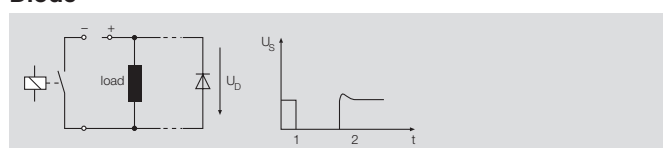
For applications that call for **improved contact reliability** or low currents/voltages, conventional relays with hard-plated gold contacts are preferable because they do not erode and therefore operate more reliably.

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 optos. Wear and abrasion caused by mechanical movements are non-existent in optos.

Protective circuits for the contacts

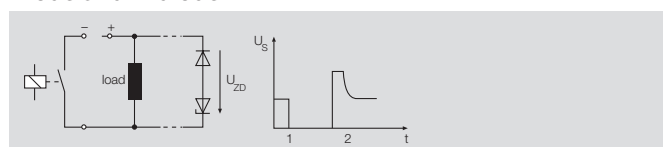
The switching of inductive or capacitive loads produces switching sparks which can influence the electrical service life of the relays. The following protective circuits for the contacts reduce contact wear:

Diode



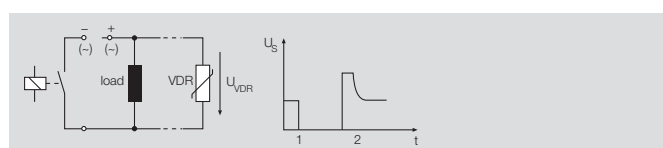
- Advantage: Can be used for all capacities, low surge, minimum space required, low price
 Disadvantage: Very long release delay

Diode and Z-diode



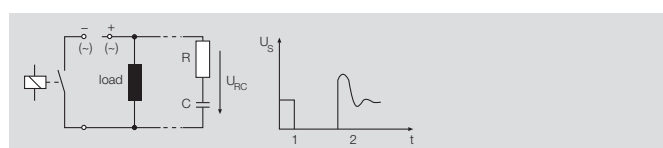
- Advantage: Low surge (defined by Z-diode), short release delay
 Disadvantage: Cannot be used for large capacities

Varistor



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

RC combination



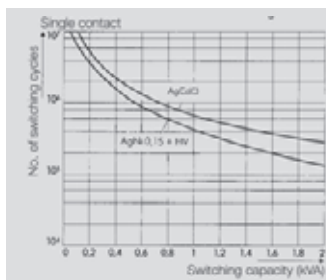
- Advantage: Short release delay, low price
 Disadvantage: Cannot be used for all operating voltages and capacities

U_s = Voltage progression 1 = Closing 2 = Opening

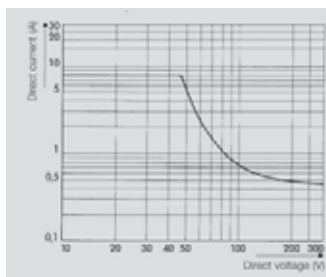
Principal characteristics of relay contacts

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

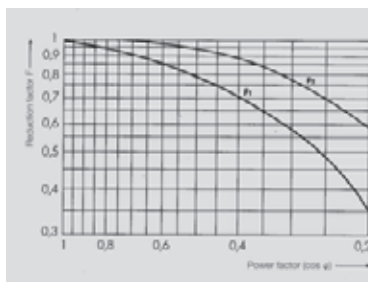
- contact lifetime (number of make-break operations plotted against make-break capacity)
- DC limit curve (direct current plotted against direct voltage)
- reduction factor for inductive load (reduction factor plotted against $\cos \varphi$)



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 $(\cos \varphi = 1) \times$

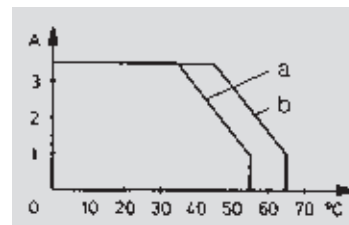
Derating curve

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.



Relays – 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)

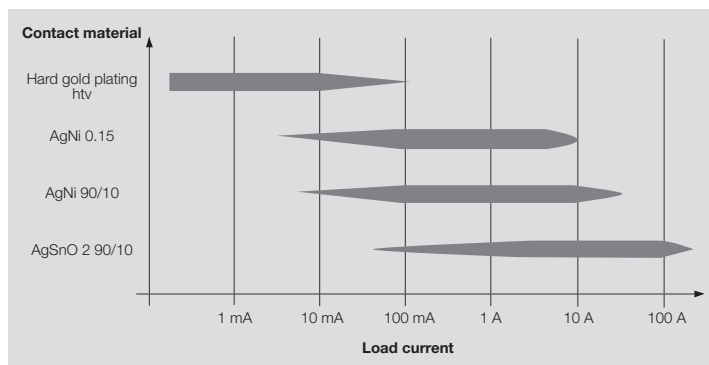
Suitable for low to medium loads, AC and DC loads, resistive and inductive (solenoid valves, fans, heaters); not suitable for high inrush currents.

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.

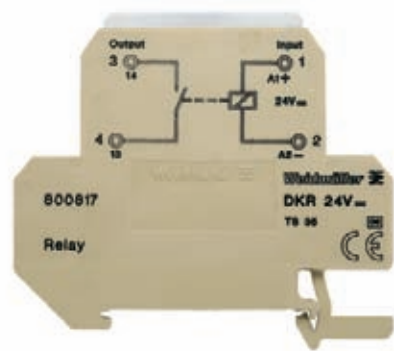


Definition of technical data

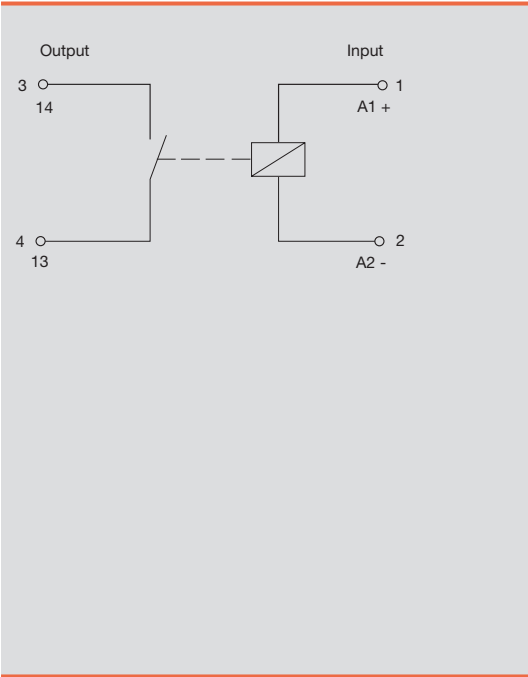
Input Circuit	
Nominal voltage [V]	Reference voltage at which the relays operates; typical input voltages = > 5 V DC, 12, 24, 48, 60, 115, 230 AC/DC
Nominal current [mA]	Input voltage and input resistance; input resistance = > coil resistance + resistance of triggering device (R, LED, GL ...)
Nominal power [W/VA]	Input voltage x input current DC/AC with tolerance $\pm 10\%$ or $+5/-15\%$, typical range for relays 250 mW ... 1 W or 0.4 VA ... 1.2 VA
Response voltage [V]	Smallest input voltage required for the relays 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	Relays to EN 50178 and VDE 0106 part 101

Relays - DK-SERIES

1 NO contact
input bottom
DC/UC coil



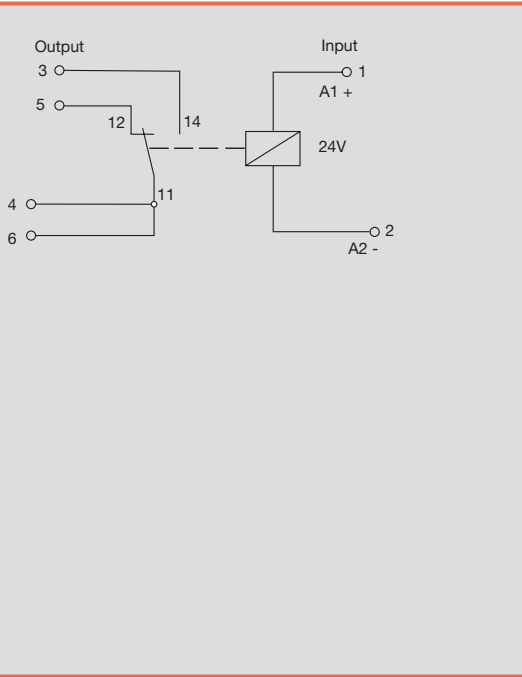
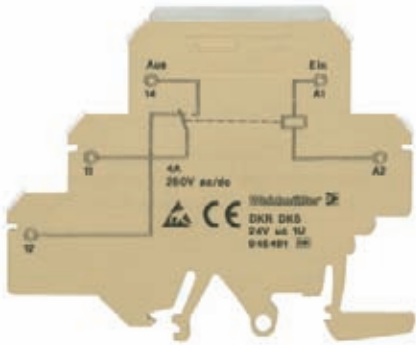
C



Output			
max. switching voltage AC1/Continuous current	100 V/0.5 A		
min. switching power	1 V / 1 mA		
Response time / Drop-out time	typically 0.7...2.5 ms/0.2...2 ms		
Contact base material	Rh/Ru		
Mechanical endurance	10 ⁹ switching cycles		
max. switching frequency at rated load	200.0 Hz		
Rated data			
Status indicator/Free wheel diode	green LED/Yes		
Reverse pol. prot	available		
Ambient temperature (operational)	-25 °C...+40 °C		
Storage temperature	-40 °C...+60 °C		
Humidity	40°C/93% RH, no condensation		
Approvals	CE;		
Insulation coordination (EN 50178)			
Standards	EN 50178		
Rated voltage	150 V		
Impulse withstand voltage	1.5 kV		
Clearance and creepage distances for control/load side	≥ 3 mm		
Surge category	III		
Pollution severity	2		
Protective separation to VDE 0106 part 101	no		
Dimensions		Screw connection	Tension clamp connection
Clamping range (rating- / min. / max.)	mm ²	4 / 0.5 / 4	
Length x width x height	mm	77 / 6 / 62	
Note		End plate AP DKT4 0687560000	

Ordering data		5 V DC 1NO	12 V DC 1NO	24 V UC 1NO	24 V DC 1NO
Input		5 V DC ±5%	12 V DC ±10 %	24 V UC ±10 %	24 V DC +5% / -10%
Rated voltage				15 mA	
Rated current AC		12.5mA	12 mA	9 mA	9.3 mA
Rated current DC		65 mW	144 mW	0,36 VA / 216 mW	225 mW
Power rating				12 V / 8 V	
AC Response/dropout Volt		4.4 V	9 V	11 V / 10 V	11 V
DC Response/dropout Volt				6,3 mA / 4,3 mA	
AC pickup/dropout current		11.8 mA	10 mA	3,8 mA / 3 mA	7.5 mA
DC pickup/dropout current					
Ordering data					
For TS 32	Type			DKR 32 24VUC 1A	DKR 32 24VDC 1A
	Order No.			8008110000	8016620000
For TS 35	Type	DKR 35 5VDC 1A	DKR 35 12VDC 1A	DKR 35 24VUC 1A	DKR 35 24VDC 1A
	Order No.	8019610000	8171100000	8016610000	8008170000
Ordering data					
	Type				
	Order No.				
Note					

1 change-over contact
input bottom DC coil



Output	
max. switching voltage AC1/Continuous current	250 V/6 A
min. switching power	5 V / 10 mA
Response time / Drop-out time	6 ms/15 ms AC;8 ms DC
Contact base material	AgSnO2
Mechanical endurance	2*10 ⁷ switching cycles
max. switching frequency at rated load	0.1 Hz
Rated data	
Status indicator/Free wheel diode	green LED/Yes
Reverse pol. prot	not available
Ambient temperature (operational)	-40 °C...+60 °C
Storage temperature	-40 °C...+60 °C
Humidity	40°C/93% RH, no condensation
Approvals	CE;
Insulation coordination (EN 50178)	
Standards	EN 50178
Rated voltage	300 V
Impulse withstand voltage	4 kV
Clearance and creepage distances for control/load side	≥ 8 mm
Surge category	III
Pollution severity	2
Protective separation to VDE 0106 part 101	no
Dimensions	
Clamping range (rating- / min. / max.)	mm² 4 / 0.5 / 4
Length x width x height	mm 77 / 6 / 62
Note	
End plate AP DK5: 8268870000; AP DKT4: 0687560000	

Ordering data

Input

Rated voltage	24 V DC ±20 %
Rated current AC	9 mA
Rated current DC	7mA
Power rating	220 mVA/ 180 mW
AC Response/dropout Volt	18 V
DC Response/dropout Volt	19 V
AC pickup/dropout current	7 mA
DC pickup/dropout current	5.5 mA

24 V UC 1CO

Ordering data

For TS 32	Type	DKR DK5 24VUC 1U
	Order No.	9454910000
For TS 35	Type	DKR DK5 24VUC 1U
	Order No.	9454910000

Ordering data

Type
Order No.

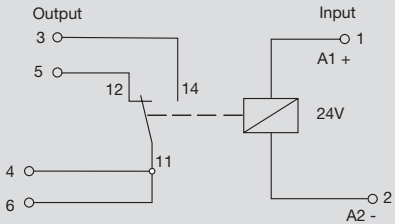
Note

Relays - DK-SERIES

1 change-over contact
input bottomDC/UC coil



C



Output	
max. switching voltage AC1/Continuous current	250 V/6 A
min. switching power	10 V / 100 mA
Response time / Drop-out time	typically 0.7...2.5 ms/0.2...2 ms
Contact base material	AgNi 0.15 gold flashed
Mechanical endurance	≥10 ⁷ switching cycles
max. switching frequency at rated load	10.0 Hz
Rated data	
Status indicator/Free wheel diode	green LED/Yes
Reverse pol. prot	available
Ambient temperature (operational)	-25 °C...+40 °C
Storage temperature	-40 °C...+60 °C
Humidity	40°C/93% RH, no condensation
Approvals	CE;
Insulation coordination (EN 50178)	
Standards	EN 50178
Rated voltage	300 V
Impulse withstand voltage	6 kV
Clearance and creepage distances for control/load side	≥ 8 mm
Surge category	IV
Pollution severity	2
Protective separation to VDE 0106 part 101	no
Dimensions	
Clamping range (rating- / min. / max.)	mm ² 4 / 0.5 / 4
Length x width x height	mm 65 / 18 / 62
Note	
End plate AP DKT4 0687560000	

Ordering data

Input		24 V DC 1CO	24 V UC 1CO		
Rated voltage		24 V DC ±20 %	24 V DC ±20 %		
Rated current AC			20 mA		
Rated current DC		11.5 mA	16 mA		
Power rating		384 mW	480 mW / 400 mW		
AC Response/dropout Volt			18 V		
DC Response/dropout Volt		19 V	18 V		
AC pickup/dropout current			12.8 mA		
DC pickup/dropout current		9 mA	11.5 mA		

Ordering data					
For TS 32	Type				
	Order No.				
For TS 35	Type	DKR 35 24VDC 1U	DKR 35 24VUC 1U		
	Order No.	8181980000	8181970000		
Ordering data					
	Type				
	Order No.				
Note					

Relays - MCZ SERIES

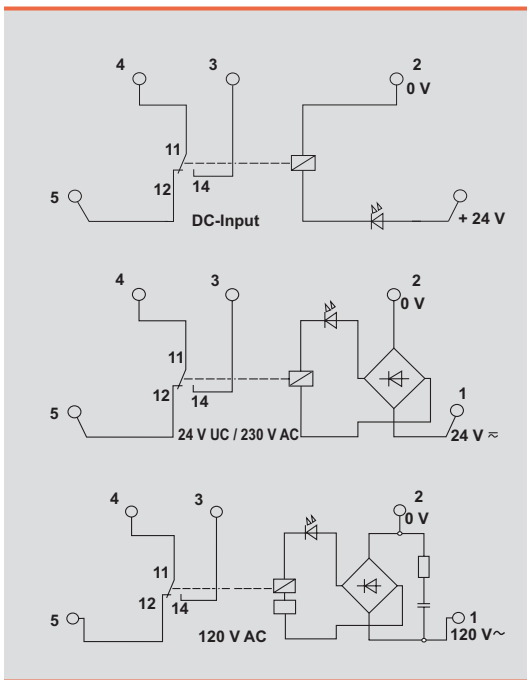
Mini-conditioner MCZ R 1 change-over contact AC/ DC/ UC coil

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

- 1 change-over contact
- Pluggable cross-connection at input and output minimises the wiring workload.
- 6 mm wide, low height



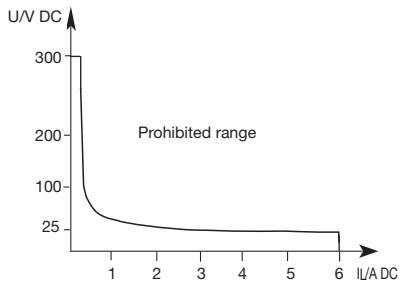
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Output		
max. switching voltage AC1/Continuous current	250 V/6 A	
min. switching power	12 V / 100 mA	
Response time / Drop-out time	4.5 ms/10 ms	
Contact base material	AgSnO2	
Mechanical endurance	20*10 ⁶ switching cycles	
max. switching frequency at rated load	0.1 Hz	
Rated data		
Status indicator/Free wheel diode	green LED/Yes	
Reverse pol. prot	available	
Ambient temperature (operational)	-25 °C...+ 55 °C	
Storage temperature	-40 °C...+60 °C	
Humidity	40°C/93% RH, no condensation	
Approvals	CSA;cURus;CE;GL;	
Insulation coordination (EN 50178)		
Standards	EN 50178	
Rated voltage	300 V	
Impulse withstand voltage	6 kV	
Clearance and creepage distances for control/load side	≥ 5.5 mm	
Surge category	III	
Pollution severity	2	
Protective separation to VDE 0106 part 101	Yes	
Dimensions		Tension clamp connection
Clamping range (rating- / min. / max.)	mm²	1.5 / 0.5 / 2.5
Length x width x height	mm	91 / 6 / 63.2
Note		
End plate AP MCZ 1.5: 8389030000 for cross-connectors and markers - refer to MCZ Series accessories		

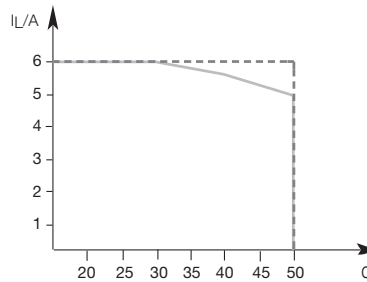
Applications

Limit curve



Derating curve

- in a row without spacing on terminal rail
- - - in a row with 20 mm spacing on terminal rail



Mini-conditioner MCZ R

1 change-over contact

AC/ DC/ UC coil

Ordering data		24 V DC 1CO	24 V DC 1CO Au	24 V UC 1CO	60 V DC 1CO
Input		24 V DC $\pm 20\%$	24 V DC $\pm 20\%$	24 V UC $\pm 10\%$	5 V DC $\pm 20\%$
Rated voltage				10.8 mA	
Rated current AC		6.3 mA	6.3 mA	6.1 mA	3 mA
Rated current DC		156 mW	156 mW	160 mVA / 150 mW	180 mW
Power rating				approx. 17 V/ approx. 7 V	
AC Response/dropout Volt				approx. 19 V/ approx. 4 V	
DC Response/dropout Volt		12 V...19 V/4 V...5,5 V	12 V...19 V/4 V...5,5 V		approx. 38 V/ approx. 14 V
AC pickup/dropout current					
DC pickup/dropout current		5.7 mA	5.7 mA	9 mA / 5 mA	2.7 mA
Ordering data Complete module					
CO contact	Type	MCZ R 24VDC	MCZ R 24VDC 5uAu	MCZ R 24VUC	MCZ R 60VDC
	Order No.	8365980000	8442960000	8390590000	8470380000
NO contact	Type				
	Order No.				
Ordering data Spare relay					
	Type				
	Order No.				
Note			Safely switches loads of: 1...60 V AC/DC, 1...3 mA. The gold layer may be destroyed by switching greater voltages.		

Ordering data		110 V DC 1CO	120 V AC 1CO	230 V AC 1CO	
Input		110 V DC $\pm 10\%$	120 V AC -15 %/ +10 %	230 V AC $\pm 10\%$	
Rated voltage			7 mA	9.5 mA	
Rated current AC		2.85 mA			
Rated current DC		340 mW	0.85 VA	2.1 VA	
Power rating			approx. 70 V/ approx. 22 V	approx. 115 V/ approx. 60 V	
AC Response/dropout Volt					
DC Response/dropout Volt		approx. 68 V/ approx. 19 V			
AC pickup/dropout current			4 mA / 1,3 mA	5 mA / 2,5 mA	
DC pickup/dropout current		1.6 mA/0.4 mA			
Ordering data Complete module					
CO contact	Type	MCZ R 110VDC	MCZ R 120VAC	MCZ R 230VAC	
	Order No.	8467470000	8420880000	8237710000	
NO contact	Type				
	Order No.				
Ordering data Spare relay					
	Type				
	Order No.				
Note					

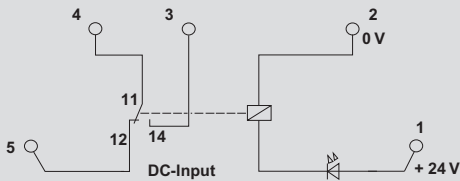
Relays - MCZ-TRAK-SERIES

MCZ R TRAK 1 CO contact or 1 NO contact DC coil

- 1 CO contact
- Module for rail industry applications
- Vibration requirements according to EN 61373, requirements category 1 class B
- Voltage fluctuations -30%/+25% and ±40% for 0.1 sec
- Voltage interruptions at input up to 10 ms
- Condensation permissible



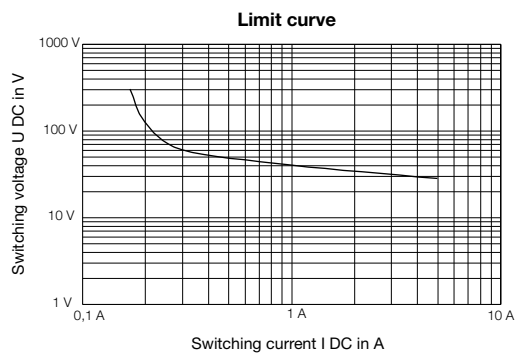
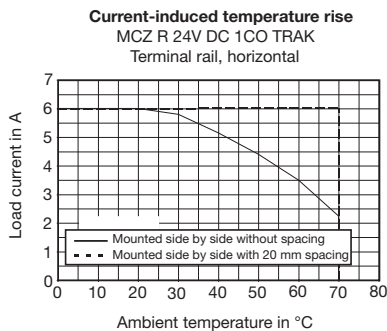
C



Output	
max. switching voltage AC1/Continuous current	250 V/6 A
min. switching power	12 V / 100 mA
Response time / Drop-out time	< 6,5 ms / < 75 ms
Contact base material	AgSnO
Mechanical endurance	20*10 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
Ambient temperature (operational)	+85°C for 10 minutes;-25 °C...+70 °C
Storage temperature	-40 °C...+85 °C
Humidity	95% for 30 days, minimal condensation to EN 50155
Approvals	CE;
Insulation coordination (EN 50178)	
Standards	EN 50178
Rated voltage	300 V
Impulse withstand voltage	4 kV (1.2/50 µs)
Clearance and creepage distances for control/load side	≥ 5.5 mm
Surge 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	
End plate AP MCZ 1.5: 8389030000 for cross-connectors and markers - refer to MCZ Series accessories	

Dimensions	Screw connection	Tension clamp connection
Clamping range (rating- / min. / max.)	mm ²	1.5 / 0.5 / 2.5
Length x width x height	mm	91 / 6 / 63.2

Applications



MCZ R TRAK
1 CO contact or 1 NO contact
DC coil

Ordering data		24 V DC TRAK	36 V DC TRAK	48...110 V DC TRAK	
Input					
Rated voltage		24 V DC	36 V DC	48...110 V DC TRAK	
Rated current AC					
Rated current DC		11.5...16.5 V	8...12 mA	< 3 mA	
Power rating		195...50 mW	200...540 mW	< 300 mW	
AC Response/dropout Volt					
DC Response/dropout Volt		7...14 V / 3...5 V	4.5...15 V	> 25 V / < 6 V	
AC pickup/dropout current					
DC pickup/dropout current					
Ordering data					
Complete module					
CO contact	Type	MCZ R 24Vdc 1CO TRAK	MCZ R 36Vdc 1CO TRAK	MCZ R 48...110Vdc 1CO TRAK	
	Order No.	8713890000	8713900000	8713910000	
NO contact	Type	MCZ R 24Vdc 1NO TRAK	MCZ R 36Vdc 1NO TRAK	MCZ R 48...110Vdc 1NO TRAK	
	Order No.	8499550000	8582130000	8574070000	
Ordering data					
Spare relay					
	Type				
	Order No.				
Note					
Ordering data					
Input					
Rated voltage					
Rated current AC					
Rated current DC					
Power rating					
AC Response/dropout Volt					
DC Response/dropout Volt					
AC pickup/dropout current					
DC pickup/dropout current					
Ordering data					
Complete module					
CO contact	Type				
	Order No.				
NO contact	Type				
	Order No.				
Ordering data					
Spare relay					
	Type				
	Order No.				
Note					

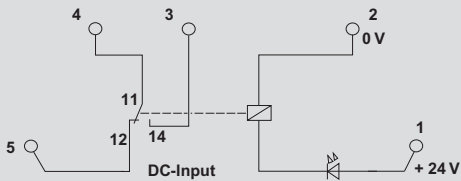
Relays - MCZ-TRAK-SERIES

MCZ R TRAK Au 1 CO contact or 1 NO contact DC coil

- 1 CO with hard gold-plated contacts
- Module for rail industry applications
- Vibration requirements according to EN 61373, requirements category 1 class B
- Voltage fluctuations -30%/+25% and ±40% for 0.1 sec
- Voltage interruptions at input up to 10 ms
- Condensation permissible

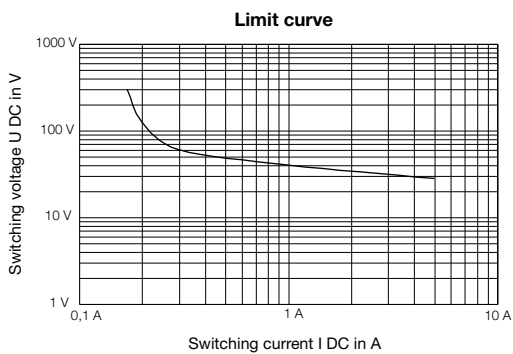
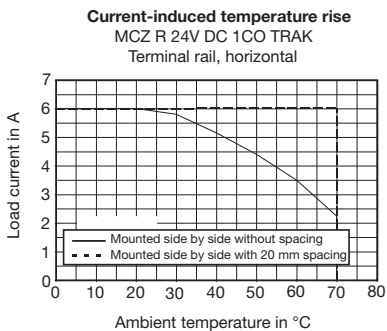


C



Output		
max. switching voltage AC1/Continuous current	/6 A	
min. switching power	1 V / 1 mA	
Response time / Drop-out time	< 6,5 ms / < 75 ms	
Contact base material	AgSnO 5µm Au	
Mechanical endurance	20*10 ⁶ switching cycles	
max. switching frequency at rated load	0.1 Hz	
Rated data		
Status indicator/Free wheel diode	green LED/	
Reverse pol. prot		
Ambient temperature (operational)	+85°C for 10 minutes; -25 °C...+70 °C	
Storage temperature	-40 °C...+85 °C	
Humidity	95% for 30 days, minimal condensation to EN 50155	
Approvals	CE;	
Insulation coordination (EN 50178)		
Standards		
Rated voltage	300 V	
Impulse withstand voltage	4 kV (1.2/50 µs)	
Clearance and creepage distances for control/load side		
Surge category	III	
Pollution severity	2	
Protective separation to VDE 0106 part 101	Yes	
Dimensions		
Clamping range (rating- / min. / max.)	mm²	1.5 / 0.5 / 2.5
Length x width x height	mm	91 / 6 / 63.2
Note		
End plate AP MCZ 1.5: 8389030000 for cross-connectors and markers - refer to MCZ Series accessories		

Applications



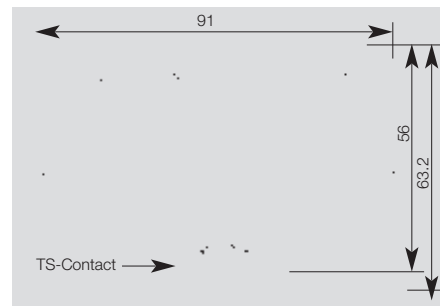
MCZ R TRAK Au
1 CO contact or 1 NO contact
DC coil

Ordering data		24 V DC TRAK Au	36 V DC TRAK Au	48...110 V DC TRAK Au	
Input					
Rated voltage		24 V DC	36 V DC	48...110 V DC TRAK	
Rated current AC					
Rated current DC		11.5...16.5 mA	8...12 mA	< 3 mA	
Power rating		195...50 mW	200...540 mW	< 300 mW	
AC Response/dropout Volt					
DC Response/dropout Volt		7...14 V / 3...5 V	4.5...15 V	> 25 V / < 6 V	
AC pickup/dropout current					
DC pickup/dropout current					
Ordering data					
Complete module					
CO contact	Type	MCZ R 24VDC 1CO AU TRAK	MCZ R 36VDC 1CO AU TRAK	MCZ R 48...110VDC 1CO AU	
	Order No.	8790520000	8790510000	8790500000	
NO contact	Type				
	Order No.				
Ordering data					
Spare relay					
	Type				
	Order No.				
Note		Safely switches loads of: 1...60 V AC/DC; 1...300 mA. The gold layer may be destroyed by switching greater voltages.	Safely switches loads of: 1...60 V AC/DC; 1...300 mA. The gold layer may be destroyed by switching greater voltages.	Safely switches loads of: 1...60 V AC/DC; 1...300 mA. The gold layer may be destroyed by switching greater voltages.	
Ordering data					
Input					
Rated voltage					
Rated current AC					
Rated current DC					
Power rating					
AC Response/dropout Volt					
DC Response/dropout Volt					
AC pickup/dropout current					
DC pickup/dropout current					
Ordering data					
Complete module					
CO contact	Type				
	Order No.				
NO contact	Type				
	Order No.				
Ordering data					
Spare relay					
	Type				
	Order No.				
Note					

C

Relays – MCZ-SERIES accessories

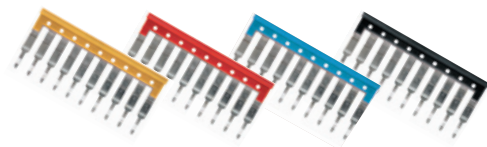
MCZ accessories



Ordering data

End plate

Type	Qty	Order No.
AP MCZ 1.5	50	8389030000



Ordering data

	No. of poles
Plug-in cross-connection, yellow	2
Plug-in cross-connection, yellow	3
Plug-in cross-connection, yellow	4
Plug-in cross-connection, yellow	10
Plug-in cross-connection, yellow	20
Plug-in cross-connection, red	2
Plug-in cross-connection, red	3
Plug-in cross-connection, red	4
Plug-in cross-connection, red	10
Plug-in cross-connection, red	20
Plug-in cross-connection, blue	2
Plug-in cross-connection, blue	3
Plug-in cross-connection, blue	4
Plug-in cross-connection, blue	10
Plug-in cross-connection, blue	20
Plug-in cross-connection, black	2
Plug-in cross-connection, black	3
Plug-in cross-connection, black	4
Plug-in cross-connection, black	10
Plug-in cross-connection, black	20

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



Ordering data

Marker

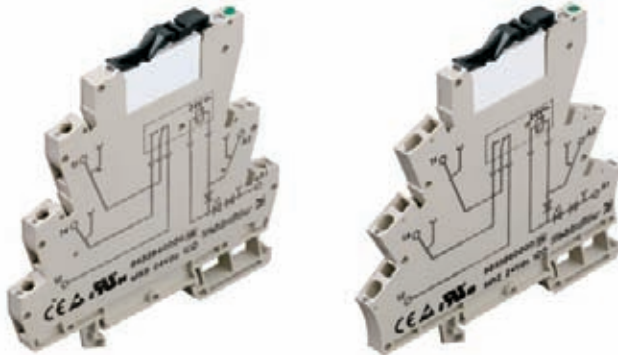
Type	Qty	Order No.
WS10/6	200	1060960000

Relays - MICROSERIES

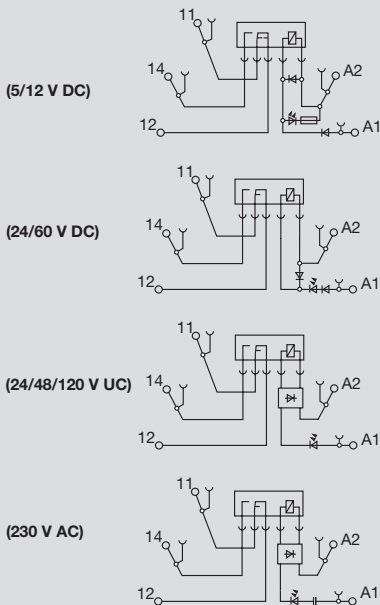
1 change-over contact
AC/DC/UC coil

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

- Relay modul interchangeable, also for an opto modul
- 6.1 mm wide
- Pluggable cross-connection at input and output minimises the wiring workload.



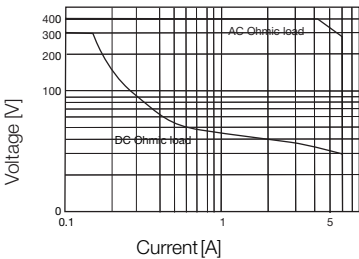
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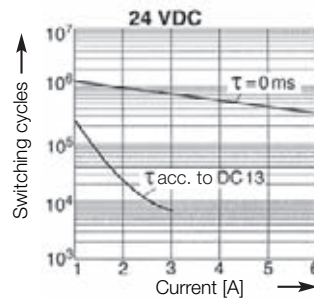
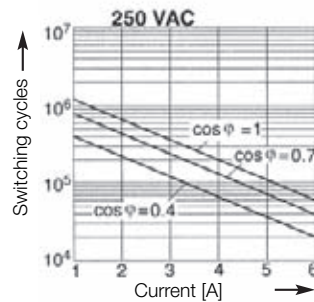
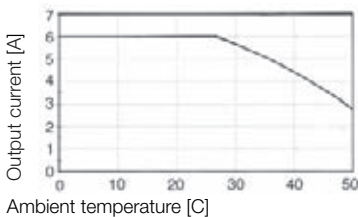
Output		
max. switching voltage AC1/Continuous current	250 V/6 A	
min. switching power	12 V / 100 mA	
Response time / Drop-out time	6.2ms/3.9ms	
Contact base material	AgSnO	
Mechanical endurance	20*10 ⁶ switching cycles	
max. switching frequency at rated load	0.1 Hz	
Rated data		
Status indicator/Free wheel diode	green LED/Yes	
Reverse pol. prot	available	
Ambient temperature (operational)	-25 °C...+50 °C	
Storage temperature	-40 °C...+60 °C	
Humidity	40°C/93% RH, no condensation	
Approvals	CE; cULus;	
Insulation coordination (EN 50178)		
Standards	EN 50178	
Rated voltage	300 V	
Impulse withstand voltage	4 kV	
Clearance and creepage distances for control/load side	≥ 5.5 mm	
Surge 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 / 4
Length x width x height	mm	93 / 6.1 / 92
		94 / 6.1 / 91
Note		
Cross-connectors and markers - refer to MICROSERIES accessories		

Applications

Limit curve



Current-Temperature rise curve



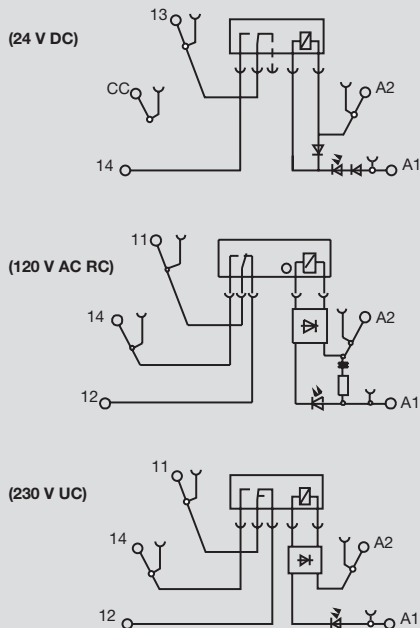
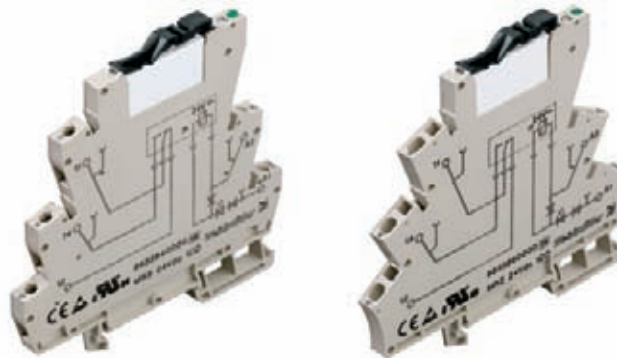
1 change-over contact AC/DC/UC coil

Ordering data		5 V DC 1CO	12 VDC 1CO	24 V DC 1CO	24 V UC 1CO
Input		5 V DC $\pm 20\%$	12 V DC $\pm 20\%$	24 V DC $\pm 20\%$	24 V UC $\pm 10\%$
Rated voltage					11 mA
Rated current AC		38.5 mA	17 mA	6.6 mA	6.4 mA
Rated current DC		193 mW	210 mW	160 mW	154 mW
Power rating					15.8V/7V
AC Response/dropout Volt		3.2V/1.6V	6.4V/ 2.5V	15.4V/6.5V	15.8V/7V
DC Response/dropout Volt					3.6mA/1.3mA
AC pickup/dropout current		21.6mA/8mA	8.4mA/2.4mA	4mA/1.2mA	3.6mA/1.3mA
DC pickup/dropout current					
Ordering data					
Relay with socket					
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		48 V UC $\pm 10\%$	5 V DC $\pm 20\%$	120 V UC + 10 %/ -15 %	230 V AC $\pm 10\%$
Rated voltage		5 mA		3.5 mA	7.6 mA
Rated current AC		4 mA	3.3 mA	3.5 mA	
Rated current DC		190 mW	200 mW	0.42 VA	1.75 VA
Power rating		29V/11V		71V/22V	103V/49V
AC Response/dropout Volt		29V/11V	35V/11V	71V/22V	
DC Response/dropout Volt		2.2mA/1.3mA		1.8mA/0.5mA	5mA/2.5mA
AC pickup/dropout current		2.2mA/1.3mA	1.6mA/0.6mA	1.8mA/0.5mA	
DC pickup/dropout current					
Ordering data					
Relay with socket					
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					

Relays - MICROSERIES

1 NO contact
special versions

- 24 VDC actuator version:
Bridgeable, potential-free connection for direct connection of actuators at the output
- 120 VAC RC version:
RC circuit at the input guarantees safe switching thresholds, e.g. for leakage currents on the control side
- 230 V UC version:
Can also be interconnected at input with DC signals



Output	
max. switching voltage AC1/Continuous current	250 V/6 A
min. switching power	12 V / 100 mA
Response time / Drop-out time	6.6 ms/5.8 ms
Contact base material	AgSnO
Mechanical endurance	20*10 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
Ambient temperature (operational)	-25 °C...+ 55 °C
Storage temperature	-40 °C...+60 °C
Humidity	40°C/93% RH, no condensation
Approvals	CE; cULus;
Insulation coordination (EN 50178)	
Standards	EN 50178
Rated voltage	300 V
Impulse withstand voltage	4 kV (1.2/50 µs)
Clearance and creepage distances for control/load side	≥ 5.5 mm
Surge 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 - refer to MICROSERIES accessories	

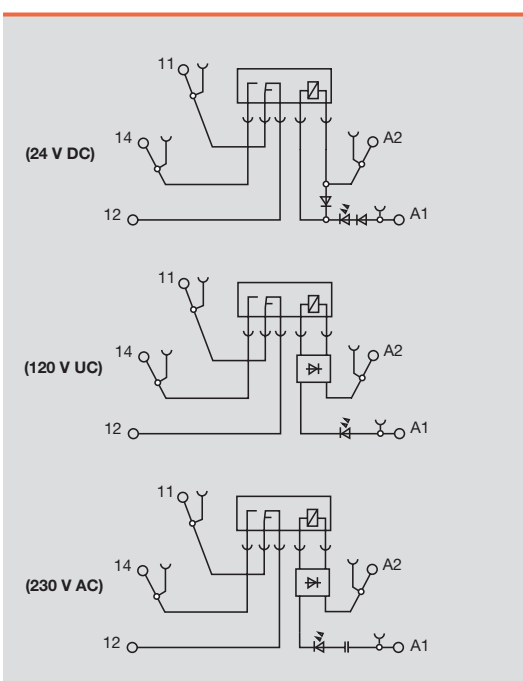
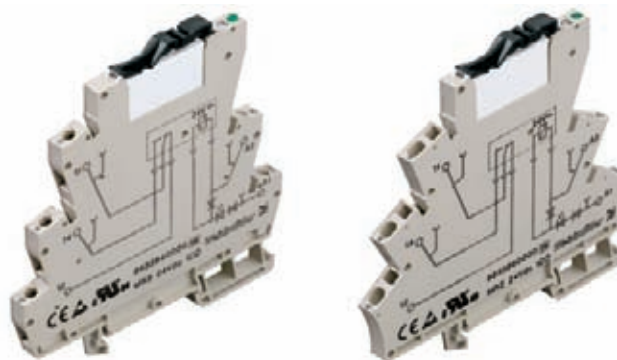
Ordering data

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 modul interchangeable, also for an opto modul
- 6.1 mm wide
- Pluggable cross-connection at input and output minimises the wiring workload.



Output	
max. switching voltage AC1/Continuous current	250 V/6 A
min. switching power	1 V / 1 mA
Response time / Drop-out time	6.6ms/5.8ms
Contact base material	AgSnO 5µm Au
Mechanical endurance	20*10 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
Ambient temperature (operational)	-25 °C...+50 °C
Storage temperature	-40 °C...+60 °C
Humidity	40°C/93% RH, no condensation
Approvals	CE; cULus;
Insulation coordination (EN 50178)	
Standards	EN 50178
Rated voltage	300 V
Impulse withstand voltage	4 kV
Clearance and creepage distances for control/load side	≥ 5.5 mm
Surge 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 / 4
Length x width x height	mm 93 / 6.1 / 92
Length x width x height	mm 94 / 6.1 / 91
Note	
Cross-connectors and markers - refer to 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		
Complete module					
Screw connection	Type	MRS 24Vdc 1CO 5uAu	MRS 120Vuc 1CO 5uAu	MRS 230Vac 1CO 5uAu	
	Order No.	8596060000	8652030000	8596050000	
Tension clamp connection	Type	MRZ 24Vdc 1CO 5uAu	MRZ 120Vuc 1CO 5uAu	MRZ 230Vac 1CO 5uAu	
	Order No.	8596080000	8652040000	8596070000	
Spare relay, pluggable					
	Type	RSS112024 24Vdc-Rel1U	RSS112060 60Vdc-Rel1U	RSS112024 24Vdc-Rel1U	
	Order No.	4061590000	4061600000	4061590000	
Note		Safely switches loads of: 1...60 V AC/DC, 1...300 mA. The gold layer may be destroyed by switching greater voltages.		Safely switches loads of: 1...60 V AC/DC, 1...300 mA. The gold layer may be destroyed by switching greater voltages.	

Relays - MICROSERIES

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, 10 mA AgSnO ₂ 5μ Au 1 V, 1 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

Type RIDER Signal Slim

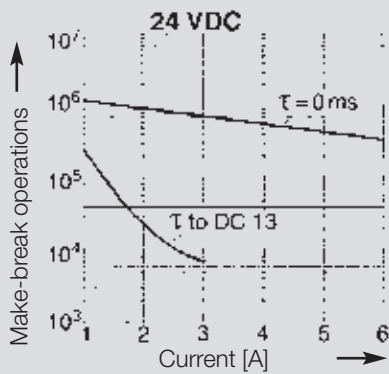
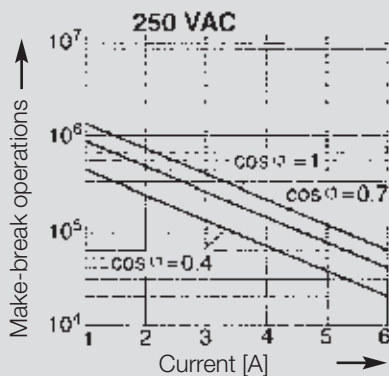
Model 1 Printing, vertical, washable

Type of contact 1 1 Changeover contact

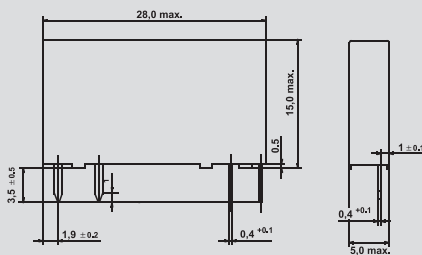
Contact material

- 2 AgSnO₂ htv
- 3 AgSnO₂

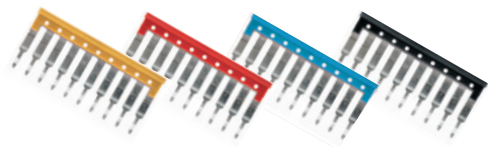
Coil
005 5 V DC
012 12 V DC
024 24 V DC
048 48 V DC
060 60 V DC

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	10
Continuous current for multi-pole cross-connection	A	10	10
Stripping length	mm	10	7
Ingress protection class		IP 20	IP 20
Housing material		Wemid	Wemid
UL 94 flammability rating		V-0	V-0
Nominal current	A	6	6
Nominal voltage	V	250	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	600	1609900000
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

MICROinterface Digital

Link field and control with a system instead of masses of wires.

MICROinterface Digital is the answer to connecting eight MICROSERIES couplers to a PLC I/O module via pre-assembled lines. It results in simple, error-free connections between field and control.

First, set up a block of eight couplers using Weidmüller's well-known relays or optos from the MICROSERIES range (available with screw or tension clamp connections). Plug the interface module into the corresponding cross-connection openings using a ribbon cable or SUB-D connection. Using the pre-assembled cables available in various lengths, simply connect to the main PLC.

Features

- No tools required for installation
- Compatible with MICROSERIES screw and tension clamp connections
- Electrical isolation and signal adaptation with relays or optos as required

MICROinterface module for ribbon cable connection



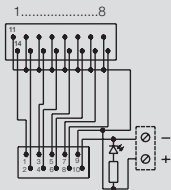
MICROinterface module for SUB-D connection



MICROinterface digital

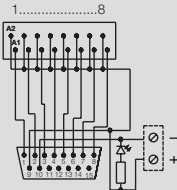
MI8DI-S/Z

Input module



MI8DO-S/Z

Output module



Technical data

Connection data	
Type	
Type of terminal / Connection system	
Rated data	
Operating voltage, max.	
Current-carrying capacity	
Total current feed, max.	
Impulse withstand voltage (1.2/50 µs)	
Rated insulation voltage	
Storage temperature	
Ambient temperature (operational)	
Insulation coordination (EN 50 178)	
Surge category	
Pollution severity	
Clearances/Creepage distances to EN	
Clamping range (rating- / min. / max.)	mm²
Length x width x height	mm
Note	

Input module		
MICROSERIES;Screw or tension clamp connection;Available for ribbon cable or Sub-D connection		
30 V AC/DC		
0.5 A per channel		
2 A		
330 V		
32 V		
-20 °C...+85 °C		
0 °C...+55 °C		
I		
2		
0.1 mm		
2.5 / 0.5 / 2.5		
48 x 59 x 53		
Wiring diagram for ribbon cable		

Output module		
MICROSERIES;Screw or tension clamp connection;Available for ribbon cable or Sub-D connection		
30 V AC/DC		
0.5 A per channel		
2 A		
330 V		
32 V		
-20 °C...+85 °C		
0 °C...+55 °C		
I		
2		
0.1 mm		
2.5 / 0.5 / 2.5		
48 x 59 x 53		
Wiring diagram for SUB-D		

Ordering data

Connection system, pre-assembled cable	Type	Qty	Order No.
Ribbon cable connector, 10-pole	MI8DI-S F10 S	1	8773510000
SUB-D plug, 15-pole	MI8DI-S SUB D15S	1	8773460000
Ribbon cable connector, 10-pole	MI8DI-Z F10 S	1	8773530000
SUB-D plug, 15-pole	MI8DI-Z SUB D15S	1	8773490000
Note			

Type	Qty	Order No.
MI8DI-S F10 S	1	8773510000
MI8DI-S SUB D15S	1	8773460000
MI8DI-Z F10 S	1	8773530000
MI8DI-Z SUB D15S	1	8773490000
Note		

Type	Qty	Order No.
MI8DO-S F10 S	1	8773600000
MI8DO-S SUB D15S	1	8773550000
MI8DO-Z F10 S	1	8773620000
MI8DO-Z SUB D15S	1	8773570000
Note		

Accessories

Note

Note

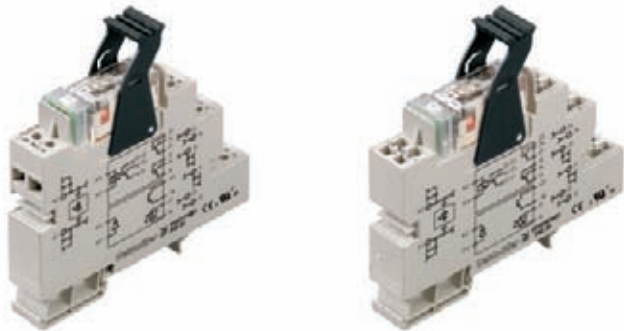
Note

Relays - PLUGSERIES

1 change-over contact
AC/DC coil

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

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



C

DC version

AC version

Output

max. switching voltage AC1/Continuous current	250 V/16 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	30*10 ⁶ switching cycles
max. switching frequency at rated load	0.1 Hz

Rated data

Status indicator/Free wheel diode	LED green/Yes
Reverse pol. prot	No
Ambient temperature (operational)	-40 °C...+50 °C
Storage temperature	-40 °C...+ 50 °C
Humidity	40°C/93% RH, no condensation
Approvals	CE;cURus;CSA;

Insulation coordination (EN 50178)

Standards	EN 50178
Rated voltage	250 V
Impulse withstand voltage	6 kV
Clearance and creepage distances for control/load side	> 8 mm
Surge 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

Screw connection

2.5 / 0.5 / 2.5
92 / 15.3 / 95

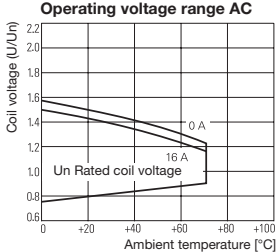
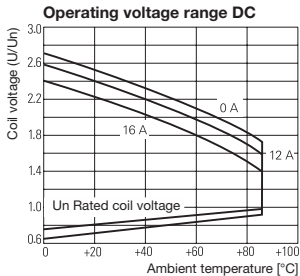
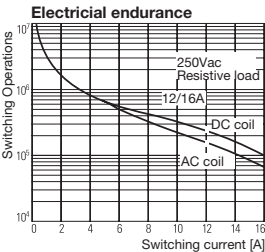
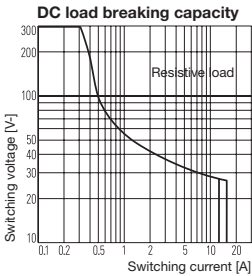
Tension clamp connection

2.5 / 0.5 / 2.5
92 / 15.3 / 87

Note

Cross-connectors and markers - refer to 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 Relay with socket

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 Relay with socket

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

Relays - PLUGSERIES

2 change-over contacts AC/DC coil

Modular system comprising

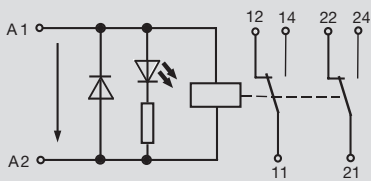
- relay socket for rail mounting
- LED indicator unit
- Retaining clip
- plug-in relay

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

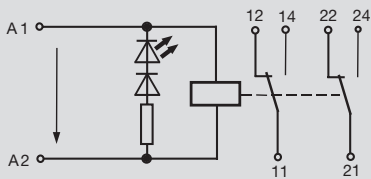


C

DC version



AC version



Output

max. switching voltage AC1/Continuous current	250 V/2 x 8 A
min. switching power	10 V / 100 mA
Response time / Drop-out time	9ms/45ms
Contact base material	AgNi 90/10
Mechanical endurance	5*10 ⁶ switching cycles
max. switching frequency at rated load	0.1 Hz

Rated data

Status indicator/Free wheel diode	LED green/Yes
Reverse pol. prot	No
Ambient temperature (operational)	-40 °C...+50 °C
Storage temperature	-40 °C...+ 50 °C
Humidity	40°C/93% RH, no condensation
Approvals	CE;cURus;CSA;

Insulation coordination (EN 50178)

Standards	EN 50178
Rated voltage	250 V
Impulse withstand voltage	6 kV
Clearance and creepage distances for control/load side	> 8 mm
Surge category	III
Pollution severity	2
Protective separation to VDE 0106 part 101	Yes

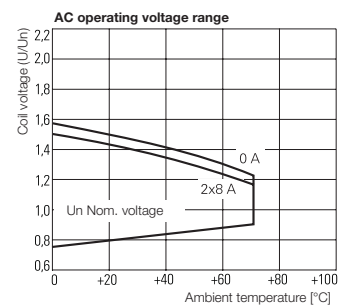
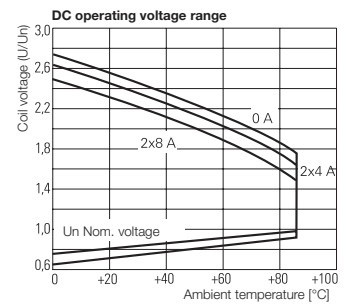
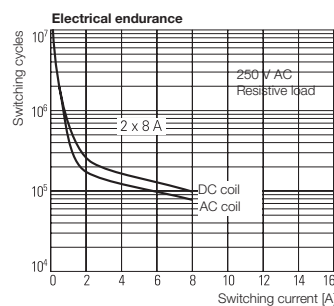
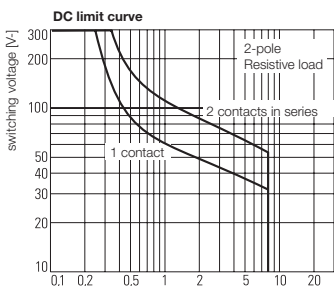
Dimensions

	Screw connection	Tension clamp connection
Clamping range (rating- / min. / max.)	mm ² 2.5 / 0.5 / 2.5	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 - refer to PLUGSERIES accessories

Applications



2 change-over contacts AC/DC coil

Ordering data

Input	12 V DC 2CO	24 V DC 2CO	115 V DC 2CO	24 V AC 2CO
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 Relay with socket

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

Input	120 V AC 2CO	230 V AC 2CO		
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 Relay with socket

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

Relays - PLUGSERIES

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

Modular system comprising

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

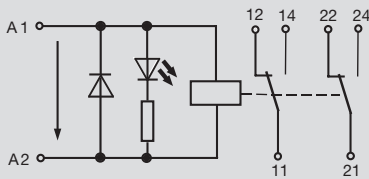
cross-section of coil connections

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

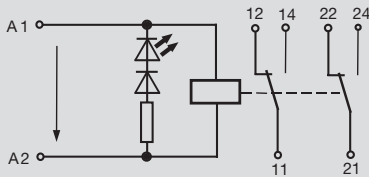


C

DC version



AC version



Output

max. switching voltage AC1/Continuous current	250 V/2 x 8 A
min. switching power	1 V / 1 mA
Response time / Drop-out time	9ms/45ms
Contact base material	AgNi 5µm Au
Mechanical endurance	5*10 ⁶ switching cycles
max. switching frequency at rated load	0.1 Hz

Rated data

Status indicator/Free wheel diode	LED green/no
Reverse pol. prot	No
Ambient temperature (operational)	-40 °C...+50 °C
Storage temperature	-40 °C...+ 50 °C
Humidity	40°C/93% RH, no condensation
Approvals	CE;cURus;CSA;

Insulation coordination (EN 50178)

Standards	EN 50178
Rated voltage	250 V
Impulse withstand voltage	6 kV
Clearance and creepage distances for control/load side	> 8 mm
Surge category	III
Pollution severity	2
Protective separation to VDE 0106 part 101	Yes

Dimensions

	Screw connection	Tension clamp connection
Clamping range (rating- / min. / max.)	mm ² 2.5 / 0.5 / 2.5	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 - refer to PLUGSERIES accessories

Ordering data

Input	24 V DC 2CO Au	120 V AC 2CO Au	230 V AC 2CO AU	
Rated voltage	24 V DC ±10%	120 V AC ±10 %	230 V AC ±10%	
Rated current AC		6.6 mA	3.2 mA	
Rated current DC	16 mA			
Power rating	400 mW	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	16.8 V / 2.4 V			

Ordering data

Complete module				
Screw connection	Type	PRS 24VDC LD 2COAU	PRS 120VAC LD 2CO AU	PRS 230VAC LD 2CO AU
	Order No.	8561760000	8595960000	8595990000
Tension clamp connection	Type	PRZ 24Vdc LD 2CO AU	PRZ 120VAC LD 2COAU	PRZ 230VAC LD 2COAU
	Order No.	8552440000	8575940000	8575950000

Ordering data

Spare relay, pluggable				
Type	RCL 425024 24Vdc-Rel2U	RCL 425615 115Vac-Rel2U	RCL 425730 230Vac-Rel2U	
Order No.	4058580000	4058620000	4058640000	

Note

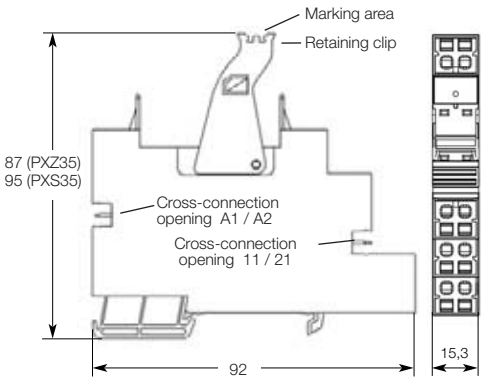
Can safely switch a load of:
1...60 V AC/DC, 1...300 mA.
If higher loads are switched
this can damage the gold plating.

Can safely switch a load of:
1...60 V AC/DC, 1...300 mA.
If higher loads are switched
this can damage the gold plating.

Can safely switch a load of:
1...60 V AC/DC, 1...300 mA.
If higher loads are switched
this can damage the gold plating.

Accessories

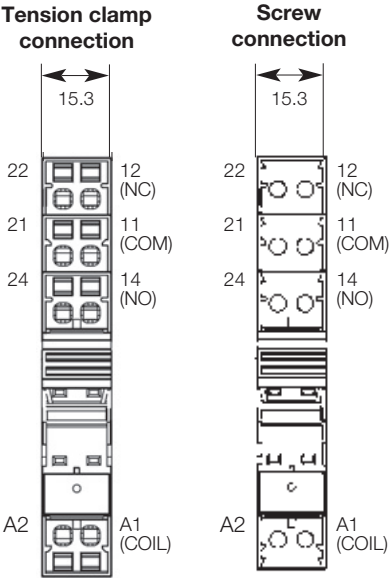
PLUGSERIES



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 mm²
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 mm²
8 mm
10 mm
–40 °C ... +60 °C
V-0



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
-----	-----	------------

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
RC combination 120 ... 230 V AC/DC	PLRC 200 nF/200Ω

20	8536710000
20	8611010000
20	8536720000
20	8536730000
20	8536750000
20	8536760000
20	8536780000
20	8566530000

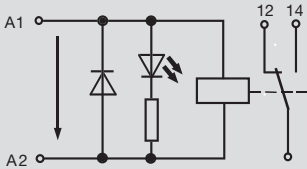
Plug-in cross-connections	
2-pole	black
	red
	blue

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

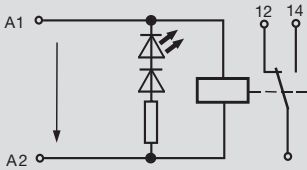
Markers	
10 x 5 mm	WS 10/5
15 x 5 mm	WS 15/5

200	1060860000
96	1609880000

DC-Version

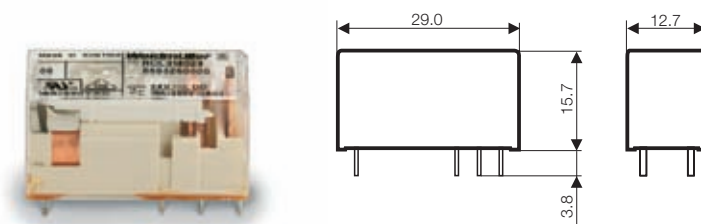


AC-Version



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, timer relays, garage door controls, Interface modules

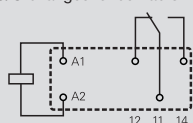


C

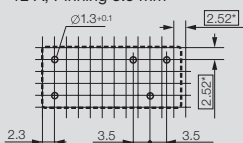
PCB layout / terminal assignment

View on solder pins,
dimensions in mm

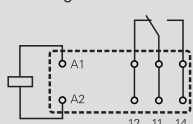
1 C/O changeover contacts



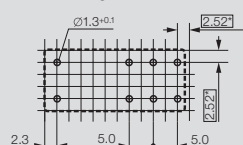
12 A, Pinning 3.5 mm



1 C/O changeover contacts



16 A, Pinning 5 mm



Output

max. switching voltage AC1	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 10 ⁴ 10 ⁶ / DC coil 30 ⁴ 10 ⁶ switching operations
Response time / Drop-out time	

Rated data

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

Insulation coordination (IEC 60664)

Rated voltage	250 V
Clearance and creepage distances for control/load side	10 mm
Surge category	III
Pollution severity	3
Protective separation to VDE 0106 part 101	Yes

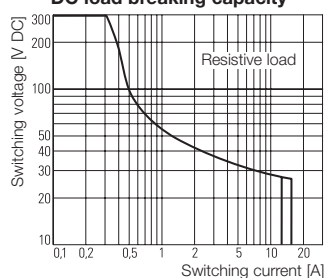
Dimensions

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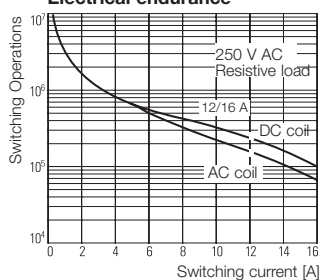
Note

Applications

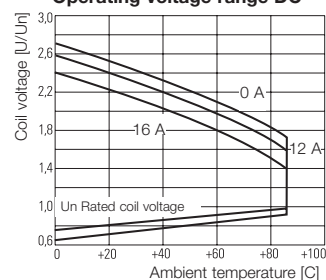
DC load breaking capacity



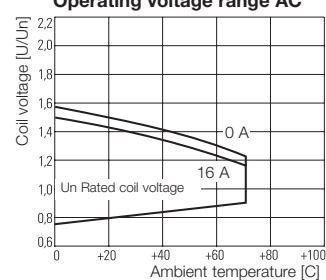
Electrical endurance



Operating voltage range DC



Operating voltage range AC



RCL relay 1 CO contact AC/DC coil

Type code

Type **RIDER Control Low**

Type of construction

- 1 12 A, Pitch 3.5 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			RCL315024	
AgNi 5 μ m Au Order No.			8824830000	

Note				

Ordering data

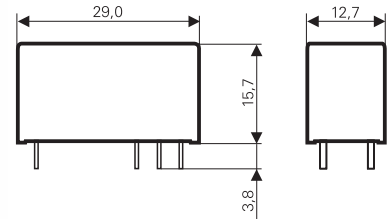
Input	24 V AC 1CO	48 V AC 1CO	115 V AC 1CO	230 V AC 1CO
Rated voltage	24 V AC	48 V AC	115 V AC	230 V AC
AC Response/dropout Volt	18.0 V / 3.6 V	64 V / 7.2 V	86.3 V / 17.3 V	172.5 V / 34.5 V
Power rating	0.75 VA	0.75 VA	0.75 VA	0.75 VA
Rated current AC	31.6 mA	15.6 mA	6.6 mA	3.2 mA
Coil resistance	1440 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		RCL315615	RCL315730
AgNi 5 μ m Au Order No.	8824870000		8824880000	8824890000

Note				

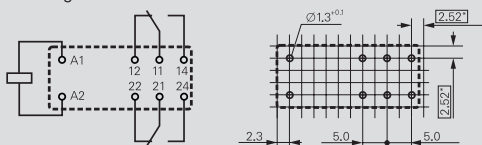
RCL relay
2 CO contact AC/DC coil

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



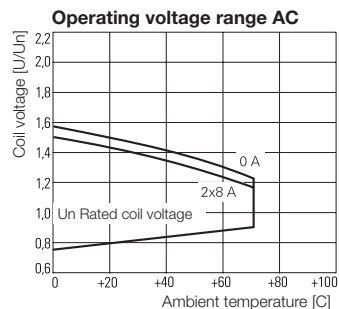
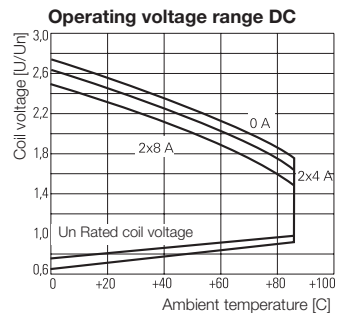
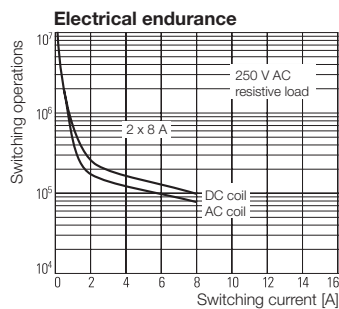
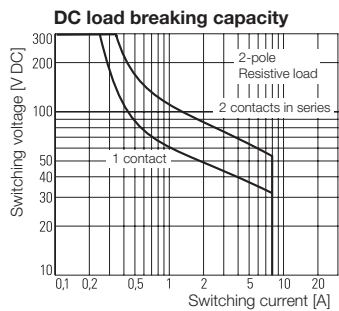
Circuit diagram
View of connections
Dimensions in mm

2 C/O changeover contacts



Output	
max. switching voltage AC1	250 V
Continuous current	8 A / 1 contact
Contact base material	AgNi 90/10 or AgNi 5µm Au
Mechanical endurance	AC coil 5*10 ⁶ / DC coil 30*10 ⁶ switching operations
Response time / Drop-out time	7ms / 2ms
Rated data	
Status indicator/Free wheel diode	no/no
Ambient temperature (operational)	-40 °C...+70 °C
UL 94 flammability rating	V-0
Approvals	cURus; VDE;
Insulation coordination (IEC 60664)	
Rated voltage	250 V
Clearance and creepage distances for control/load side	10 mm
Surge 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

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	RCL 425012	RCL 425024 24Vdc-Rel2U	RCL 425048	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	RCL 425524	RCL 425548	RCL 425615 115Vac-Rel2U	RCL 425730 230Vac-Rel2U
AgNi 5 μ m Au Order No.	on request	on request	4058620000	4058640000

Note				

Relays - RIDERSERIES

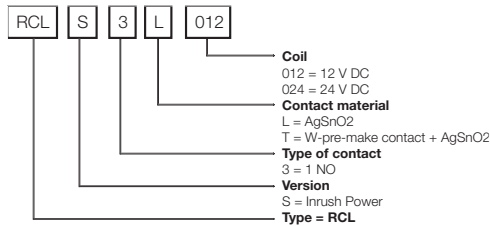
RCLS – Inrush Power

- 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

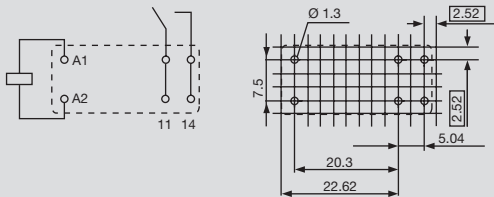


Switching contact
for AgSnO2+W



Circuit diagram
View of connections
Dimensions in mm

1 NO contact



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
Surge category	III
Pollution severity	2

Dimensions

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

Order data

Input
Rated voltage
Rated current DC
Power rating
Oper.-/drop-out volt. DC-coil

12 V DC 1NO
12 V DC
33.3 mA
400 mW
8.4 V / 1.2 V

24 V DC 1NO
24 V DC
16.7 mA
400 mW
16.8 V / 2.4 V

12 V DC 1NO
12 V DC
33.3 mA
400 mW
8.4 V / 1.2 V

24 V DC 1NO
24 V DC
16.7 mA
400 mW
16.8 V / 2.4 V

Order data	
Break contact element	Type
	Order No.

RCLS 3L012
8866890000

RCLS 3L024
8866900000

RCLS 3T012
8866910000

RCLS 3T024
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



PUSH IN

Discover the advantages of our new RIDERSERIES for yourself.

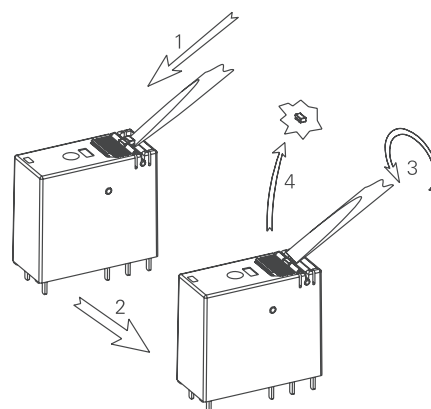
Safe. Simple. RCI.

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.

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



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



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



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



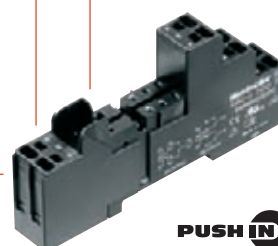
Fast. Straightforward. Push In.

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.

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.



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!



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



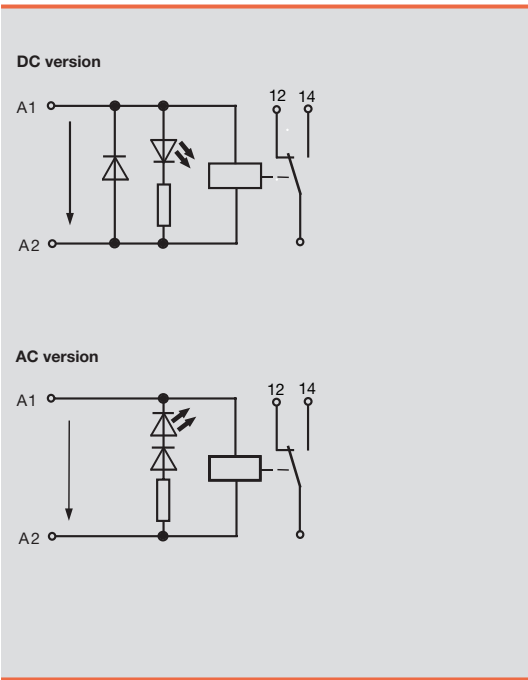
Relays - RIDERSERIES

RCI KIT with screw connection
1 changeover contact

- 4000 VA switching capacity
- Stable plug-in connections
- LED (AC red / DC green) integrated in relay
- Protective suppressor circuit for DC coil
- Optional test button with latching function and inspection window
- Identification of coils (AC red / DC blue)



C

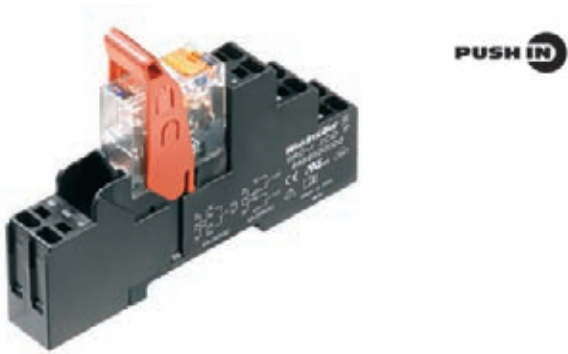


Output	
max. switching voltage AC1	250 V
Continuous current	16 A
Contact base material	AgNi 90/10
Mechanical endurance	AC coil 5*10 ⁶ / DC coil 10*10 ⁶ switching operations
Response time / Drop-out time	7 ms / 3 ms
Rated data	
Status indicator / Free wheel diode	yes / yes
Ambient temperature (operational)	-40 °C...+70 °C
UL 94 flammability rating	V-0
Approvals	CE, GL*
Insulation coordination (IEC 60664)	
Rated voltage	250 V
Clearance and creepage distances for control/load side	8 mm
Surge category	III
Pollution severity	3
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 70 / 15.5 / 77
Note	
*Only valid for RCI kits with test button	

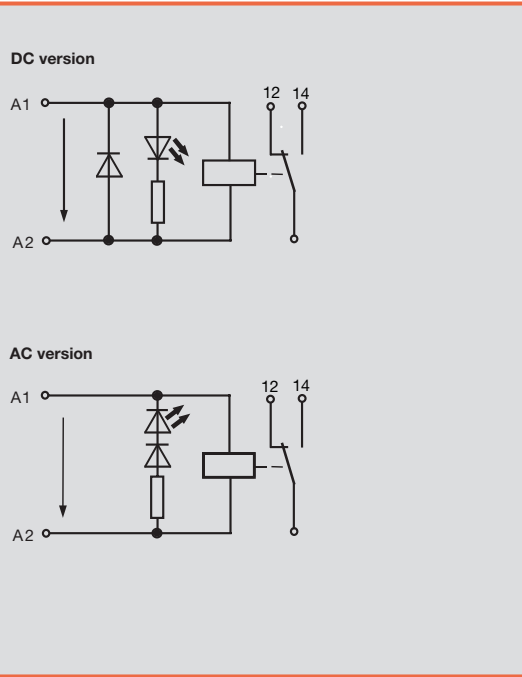
Ordering data		24 V DC 1CO		24 V AC 1CO		115 V AC 1CO		230 V AC 1CO	
Input		24 V DC		24 V AC		115 V AC		230 V AC	
Rated voltage				31.6 mA		6.6 mA		3.2 mA	
Rated current AC		16.7 mA							
Rated current DC		400 mW		0.75 VA		0.75 VA		0.75 VA	
Power rating				18.0 V / 3.6 V		86.3 V / 17.3 V		172.5 V / 34.5 V	
AC Response/dropout Volt		16.8 V / 2.4 V							
DC Response/dropout Volt		1440 Ω ±10%		350 Ω ±10%		8100 Ω ±15%		32500 Ω ±15%	
Coil resistance									
Ordering data									
Complete module									
with test button	Type	RCIKIT 24VDC 1CO LD/PB		RCIKIT 24VAC 1CO LD/PB		RCIKIT 115VAC 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 115VAC 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	RCI314AC4 RCI374AC4		RCI374R24 RCI314R24		RCI374S15 RCI314S15		RCI314T30 RCI374T30	
	Order No.	8870100000 8870250000		8870280000 8870130000		8870290000 8870140000		8870150000 8870300000	
Note									

RCI-KITP with push-in connection
1 changeover contact

- 4000 VA switching capacity
- Stable plug-in connections
- LED (AC red / DC green) integrated in relay
- Protective suppressor circuit for DC coil
- Optional test button with latching function and inspection window
- Identification of coils (AC red / DC blue)



PUSH IN



Output	
max. switching voltage AC1	250 V
Continuous current	16 A
Contact base material	AgNi 90/10
Mechanical endurance	AC coil 5*10 ⁶ / DC coil 10*10 ⁶ switching operations
Response time / Drop-out time	7 ms / 3 ms
Rated data	
Status indicator / Free wheel diode	yes / yes
Ambient temperature (operational)	-40 °C...+70 °C
UL 94 flammability rating	V-0
Approvals	CE, GL*
Insulation coordination (IEC 60664)	
Rated voltage	250 V
Clearance and creepage distances for control/load side	8 mm
Surge category	III
Pollution severity	3
Protective separation to VDE 0106 part 101	Yes
Dimensions	
Clamping range (rating- / min. / max.)	mm ² 1.5 / 0.5 / 1.5
Length x width x height	mm 70 / 15.5 / 98
Note	
*Only valid for RCI kits with test button	

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		18.0 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%

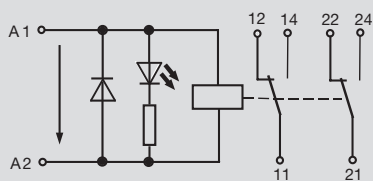
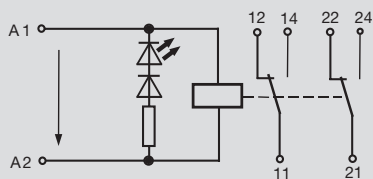
Ordering data		24 V DC 1CO		24 V AC 1CO		115 V AC 1CO		230 V AC 1CO	
Complete module									
with test button	Type	RCIKITP 24VDC 1CO LD/PB		RCIKITP 24VAC 1CO LD/PB		RCIKITP115VAC 1CO LD/PB		RCIKITP230VAC 1CO LD/PB	
	Order No.	8897190000		8897200000		8897210000		8897220000	
without test button	Type	RCIKITP 24VDC 1CO LD		RCIKITP 24VAC 1CO LD		RCIKITP 115VAC 1CO LD		RCIKITP 230VAC 1CO LD	
	Order No.	8897110000		8897120000		8897130000		8897140000	
Ordering data		w. test button		w. test button		w. test button		w. test button	
Spare relay, pluggable									
	Type	RCI314AC4 RCI374AC4		RCI374R24 RCI314R24		RCI374S15 RCI314S15		RCI314T30 RCI374T30	
	Order No.	8870100000 8870250000		8870280000 8870130000		8870290000 8870140000		8870150000 8870300000	

Note									

Relays - RIDERSERIES

RCI KIT with screw connection
2 changeover contacts

- 4000 VA switching capacity
- Stable plug-in connections
- LED (AC red / DC green) integrated in relay
- Protective suppressor circuit for DC coil
- Optional test button with latching function and inspection window
- Identification of coils (AC red / DC blue)

**DC version****AC version****Output**

max. switching voltage AC1	250 V
Continuous current	8 A / 1 contact
Contact base material	AgNi 90/10
Mechanical endurance	AC coil 5*10 ⁶ / DC coil 10*10 ⁶ switching operations
Response time / Drop-out time	7 ms / 2 ms

Rated data

Status indicator / Free wheel diode	yes / yes
Ambient temperature (operational)	-40 °C...+70 °C
UL 94 flammability rating	V-0
Approvals	CE, GL*

Insulation coordination (IEC 60664)

Rated voltage	250 V
Clearance and creepage distances for control/load side	8 mm
Surge 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

*Only valid for RCI kits with test button

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		18.0 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 115VAC 2CO LD/PB	RCIKIT 230VAC 2CO LD/PB
Order No.		8881610000	8881620000	8897080000	8881630000
without test button	Type	RCIKIT 24VDC 2CO LED	RCIKIT 24VAC 2CO LED	RCIKIT 115VAC 2CO LD	RCIKIT 230VAC 2CO LED
Order No.		8871030000	8871040000	8897100000	8871050000

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	RCI424AC4	RCI484AC4	RCI424R24	RCI484R24	RCI424S15	RCI484S15	RCI484T30	RCI424T30
Order No.	8870180000	8870320000	8870210000	8870350000	8870220000	8870360000	8870370000	8870230000

Note

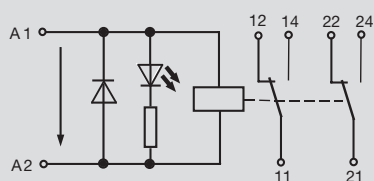
RCI-KITP with push-in connection 2 changeover contacts

- 4000 VA switching capacity
- Stable plug-in connections
- LED (AC red / DC green) integrated in relay
- Protective suppressor circuit for DC coil
- Optional test button with latching function and inspection window
- Identification of coils (AC red / DC blue)

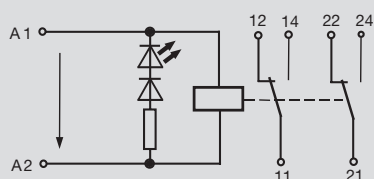


PUSH IN

DC version



AC version



Output

max. switching voltage AC1	250 V
Continuous current	8 A / 1 contact
Contact base material	AgNi 90/10
Mechanical endurance	AC coil 5*10 ⁶ / DC coil 10*10 ⁶ switching operations
Response time / Drop-out time	7 ms / 2 ms

Rated data

Status indicator / Free wheel diode	yes / yes
Ambient temperature (operational)	-40 °C...+70 °C
UL 94 flammability rating	V-0
Approvals	CE, GL*

Insulation coordination (IEC 60664)

Rated voltage	250 V
Clearance and creepage distances for control/load side	8 mm
Surge 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 / 0.5 / 1.5
Length x width x height	mm	70 / 15.5 / 98

Note

*Only valid for RCI kits with test button

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		18.0 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	RCIKITP115VAC 2CO LD/PB	RCIKITP230VAC 2CO LD/PB
	Order No.	8897230000	8897240000	8897250000	8897260000
without test button	Type	RCIKITP 24VDC 2CO LD	RCIKITP 24VAC 2CO LD	RCIKITP 115VAC 2CO LD	RCIKITP 230VAC 2CO LD
	Order No.	8897150000	8897160000	8897170000	8897180000

Ordering data

Spare relay, pluggable

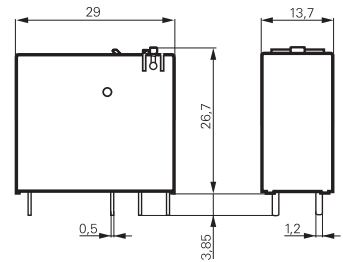
	w. test button	w.o. test button	w. test button	w.o. test button	w. test button	w.o. test button	w. test button	w.o. test button
Type	RCI424AC4	RCI484AC4	RCI424R24	RCI484R24	RCI424S15	RCI484S15	RCI484T30	RCI424T30
Order No.	8870180000	8870320000	8870210000	8870350000	8870220000	8870360000	8870370000	8870230000

Note

Relays - RIDERSERIES

RCI relay
1 CO contact AC/DC coil

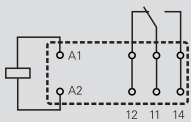
- 4000 VA switching capacity
- Stable plug-in connections
- Optional test button with latching function and inspection window
- Optional status indicator (AC red/ DC green)
- Optional protective suppressor circuit
- Identification of coils (AC red / DC blue)



C

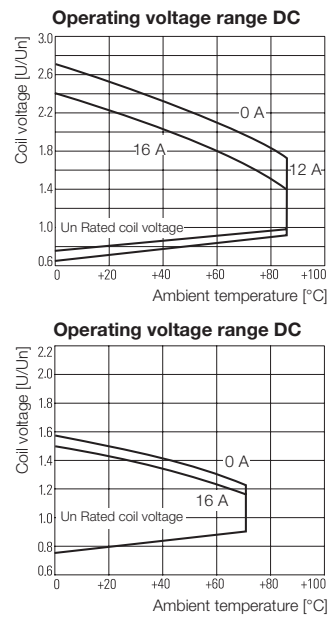
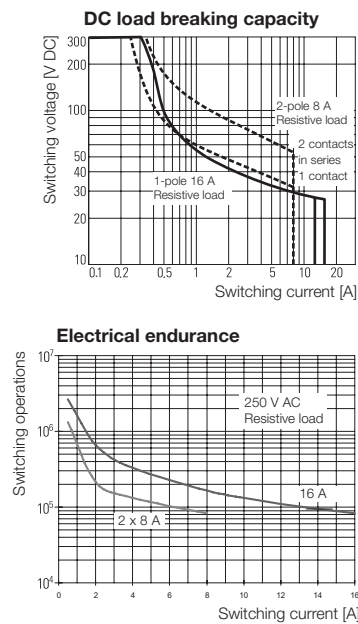
Circuit diagram
View on solder pins
dimensions in mm

1 C/O changeover contacts



Output	
max. switching voltage AC1	250 V
Continuous current	16 A
Contact base material	AgNi 90/10
Mechanical endurance	AC coil 5*10 ⁶ / DC coil 10*10 ⁶ switching operations
Response time / Drop-out time	7 ms / 3 ms
Rated data	
Status indicator / Free wheel diode	see ordering data
Ambient temperature (operational)	-40 °C...+70 °C
UL 94 flammability rating	V-0
Approvals	cURus; VDE; CE;
Insulation coordination (IEC 60664)	
Rated voltage	250 V
Clearance and creepage distances for control/load side	8 mm
Surge category	III
Pollution severity	3
Protective separation to VDE 0106 part 101	Yes
Dimensions	
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 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 Relay

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	18.0 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		6.6 mA	3.2 mA
Coil resistance	350 Ω $\pm$ 10%	8100 Ω $\pm$ 15%	32500 Ω $\pm$ 15%

Ordering data Relay

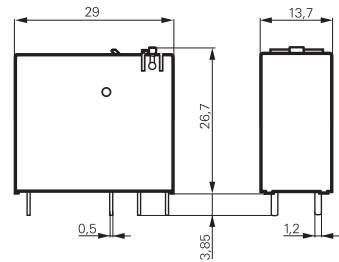
Standard	Type	RCI314524	RCI314615	RCI314730
	Order No.	8869840000	8869850000	8869860000
with test button	Type	RCI374524	RCI374615	RCI374730
	Order No.	8869990000	8870000000	8870010000
with LED	Type	RCI314R24	RCI314S15	RCI314T30
	Order No.	8870130000	8870140000	8870150000
with test button + LED	Type	RCI374R24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

Note

Relays - RIDERSERIES

RCI relay
2 CO contact AC/DC coil

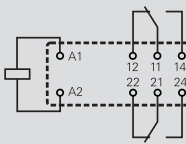
- 2000 VA switching capacity
- Stable plug-in connections
- Optional test button with latching function and inspection window
- Optional status indicator (AC red / DC green)
- Optional protective suppressor circuit
- Identification of coils (AC red / DC blue)



C

Circuit diagram
View on solder pins
dimensions in mm

2 C/O changeover contacts



Output

max. switching voltage AC1	250 V
Continuous current	8 A / 1 contact
Contact base material	AgNi 90/10
Mechanical endurance	AC coil 5*10 ⁶ / DC coil 10*10 ⁶ switching operations
Response time / Drop-out time	7 ms / 2 ms

Rated data

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

Insulation coordination (IEC 60664)

Rated voltage	250 V
Clearance and creepage distances for control/load side	8 mm
Surge category	III
Pollution severity	3
Protective separation to VDE 0106 part 101	Yes

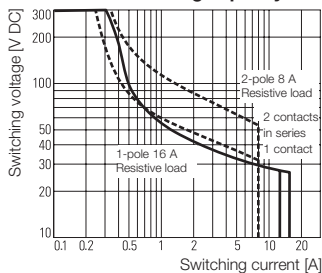
Dimensions

Plug-in connection

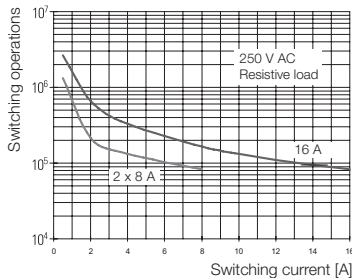
Length x width x height	mm	29 / 13.7 / x
Note		x = 25.5 without test button / 26.7 with test button

Applications

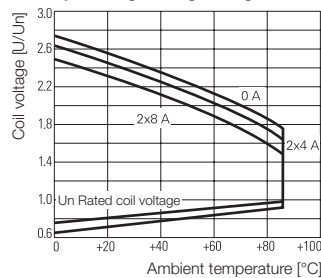
DC load breaking capacity



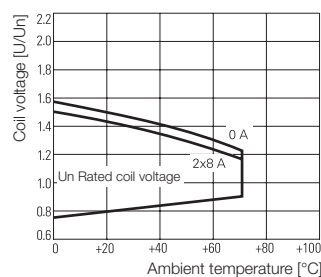
Electrical endurance



Operating voltage range DC



Operating voltage range DC



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 Relay

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%	

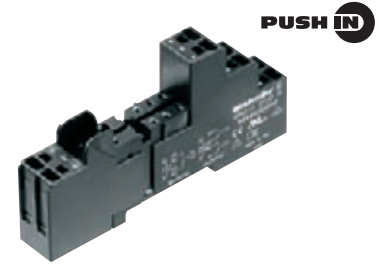
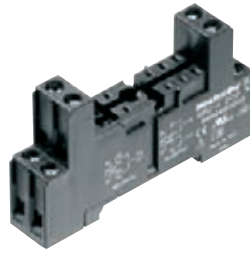
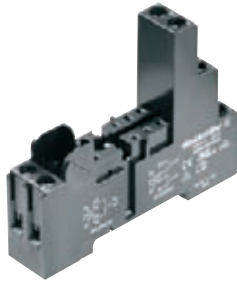
Ordering data Relay

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

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
Surge 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-connection for push-in base, 2-pole	SRC-I QV	10	8870840000

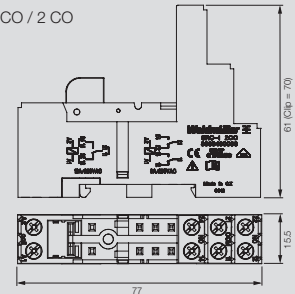
LED and protection modules for SRC-I

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

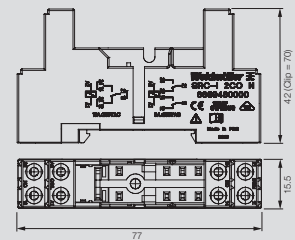
Ordering data

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

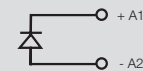
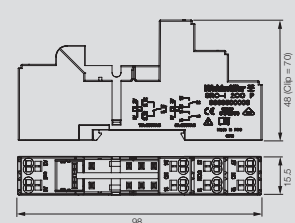
SRC-I 1CO / 2 CO



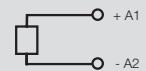
SRC-I 2CO N



SRC-I 2CO P



RIM 1



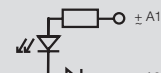
RIM 1 R



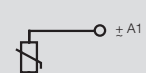
RIM 3 RC



RIM 2



RIM 3 LED



RIM 4

Relays - RIDERSERIES

RCM KIT
2 CO contact
AC/DC coil

Modular system comprised of:

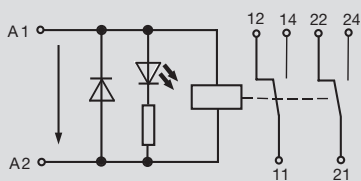
- relay socket for rail mounting
- LED display unit (AC red / DC green)
- retaining clip
- plug-in relay
- Markers
- Coil identification (AC red / DC blue)

Independent connection system

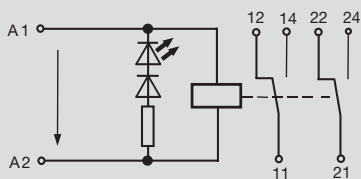
- Screw or Push-In connection system



DC version



AC version



Output

max. switching voltage AC1	250 V
Continuous current	12 A
Contact base material	AgNi 90/10
Mechanical endurance	AC coil 20*10° / DC coil 30*10° 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
Ambient temperature (operational)	-40 °C...+70 °C
UL 94 flammability rating	V-0
Approvals	CE, GL

Insulation coordination (IEC 60664)

Rated voltage	240 V
Clearance and creepage distances for control/load side	≤ 4mm
Surge category	III
Pollution severity	2

		Screw connection	Push-In connection
Clamping range (rating- / min. / max.)	mm²	2.5 / 0.5 / 2.5	1.5 / 0.5 / 1.5
Length x width x height	mm	75 / 28 / 82	96 / 28 / 98

Note

Ordering data

Input	24 V DC 2CO LED	24 V AC 2CO LED	115 V AC 2CO	230 V AC 2CO 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-I 24VDC 2CO LD	RCMKIT-I 24VAC 2CO LD	RCMKIT-I 115VAC 2CO LD
	Order No.	8920940000	8920950000	8920960000
Push-In connection	Type	RCMKITP-I 24VDC 2CO LD	RCMKITP-I 24VAC 2CO LD	RCMKITP-I 115VAC 2CO LD
	Order No.	8921080000	8921090000	8921100000

Ordering data

Spare relay, pluggable				
	Type	RCM270024	RCM270524	RCM270615
	Order No.	8689860000	8689760000	8689800000

Note

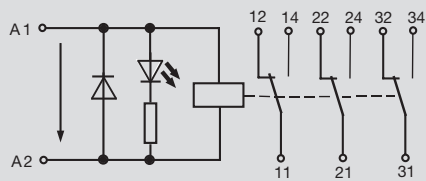
RCM KIT
3 CO contact
AC/DC coil

Modular system comprised of:

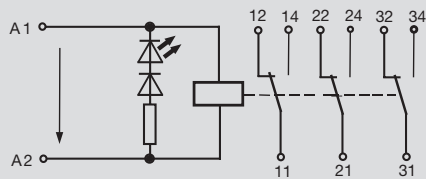
- relay socket for rail mounting
- LED display unit (AC red / DC green)
- retaining clip
- plug-in relay
- Markers
- Identification of coils (AC red / DC blue)



DC version



AC version



Output

max. switching voltage AC1	250 V
Continuous current	10 A
Contact base material	AgNi 90/10
Mechanical endurance	AC coil 20*10 ⁶ / DC coil 30*10 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
Ambient temperature (operational)	-40 °C...+70 °C
UL 94 flammability rating	V-0
Approvals	CE, GL

Insulation coordination (IEC 60664)

Rated voltage	240 V
Clearance and creepage distances for control/load side	≤ 4mm
Surge category	III
Pollution severity	2

		Screw connection	Push-In connection
Clamping range (rating- / min. / max.)	mm ²	2.5 / 0.5 / 2.5	
Length x width x height	mm	75 / 28 / 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-I 24VDC 3CO LD	RCMKIT-I 24VAC 3CO LD	RCMKIT-I 115VAC 3CO LD
	Order No.	8920980000	8920990000	8921010000
Push-In connection	Type			
	Order No.			

Ordering data

Spare relay, pluggable				
	Type	RCM370024	RCM370524	RCM370615
	Order No.	8690040000	8690030000	8689980000

Note				
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Relays - RIDERSERIES

RCM KIT 4 CO contact AC/DC coil

Modular system comprised of:

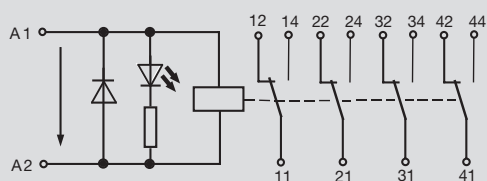
- relay socket for rail mounting
- LED display unit (AC red / DC green)
- retaining clip
- plug-in relay
- Markers
- Identification of coils (AC red / DC blue)

Independent connection system:

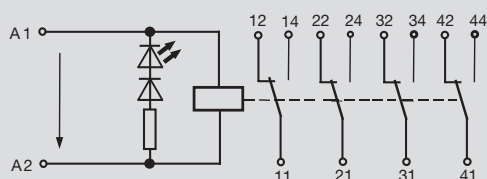
- Screw or Push-In connection system



DC version



AC version



Output

max. switching voltage AC1	250 V
Continuous current	6 A
Contact base material	AgNi 90/10
Mechanical endurance	AC coil 20*10° / DC coil 30*10° 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
Ambient temperature (operational)	-40 °C...+70 °C
UL 94 flammability rating	V-0
Approvals	CE, GL

Insulation coordination (IEC 60664)

Rated voltage	240 V
Clearance and creepage distances for control/load side	≤ 3mm
Surge category	III
Pollution severity	2

		Screw connection	Push-In connection
Clamping range (rating- / min. / max.)	mm²	2.5 / 0.5 / 2.5	1.5 / 0.5 / 1.5
Length x width x height	mm	75 / 28 / 82	96 / 28 / 98

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-I 24VDC 4CO LD	RCMKIT-I 24VAC 4CO LD	RCMKIT-I 115VAC 4CO LD
	Order No.	8921030000	8921040000	8921050000
Push-In connection	Type	RCMKITP-I 24VDC 4CO LD	RCMKITP-I 24VAC 4CO LD	RCMKITP-I 115VAC 4CO LD
	Order No.	8921120000	8921130000	8921140000

Ordering data

Spare relay, pluggable				
	Type	RCM570024	RCM570524	RCM570615
	Order No.	8690200000	8690110000	1180800000

Note				

Accessories for miniature relays RCM-I Plug-in module with screw or Push In connection


PUSH IN

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, 2-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 2CO P	10	8876220000
SCM-I 4CO P	10	8869430000

Technical data

Nominal current	4-pole 6 A, 3-pole 10 A, 2-pole 12 A
Nominal voltage	300 V AC
Dielectric strength, coil/contacts	> 2500 Veff
Insulation group (VDE 0110b)	C / 250 V AC
Ambient temperature	-45 ... +70 °C ¹⁾
Protection class (IEC 61810)	IP 20
Connection cross-section (Push In connections) / with ferrules	2 x 1.5 mm ² / 2 x 1.0 mm ²
Connection cross-section (screw connections) / with ferrules	2 x 2.5 mm ² / 2 x 1.5 mm ²
Terminal torque (screw connection)	0.5 Nm
Max.	0.7 Nm
¹⁾ At nominal current up to +40 °C, up to +70 °C at 70 %	

Accessories

Description	Type	Qty.	Order No.
Plastic retaining clip	SCM-I CLIP P	10	8869440000
Plastic retaining clip	SCM-I CLIP N	10	8875620000
Metal retaining clip	SCM-I CLIP M	10	8869450000
Markers, individual	SCM-I MARK	10	8869460000
Markers, MultiCard	ESG 9/11 K MC neutral	200	1857440000
Cross-connection for push-in base, 2-pole, 12 A	SCM-I QV	10	8870850000

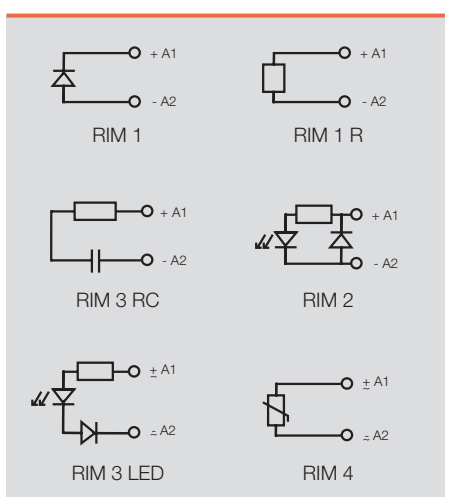
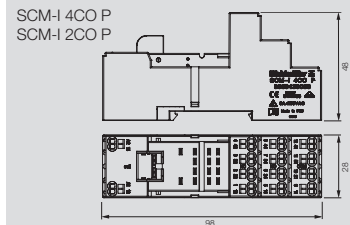
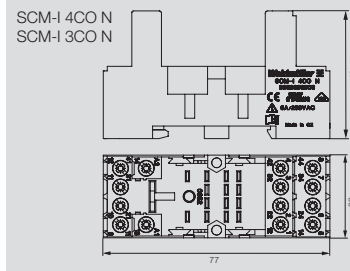
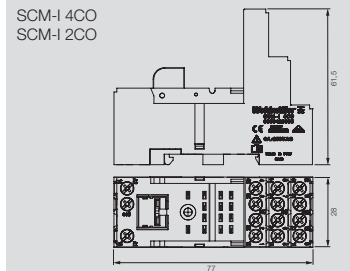
LED and protection modules for SCM-I

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

Ordering data

Description	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

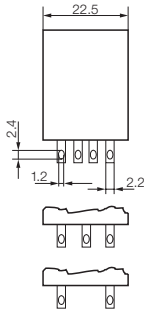
Dimensions in mm



Relays - RIDERSERIES

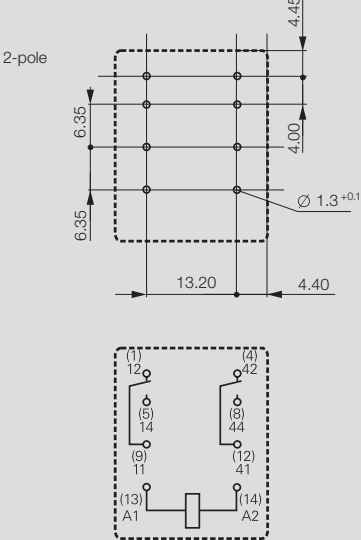
RCM relay
2 CO contact
AC/DC coil

- 3000 VA switching capacity
- Solder and plug connection
- Safe-to-touch test button, selectable locking
- White labelling panel
- Identification of coils (AC red / DC blue)



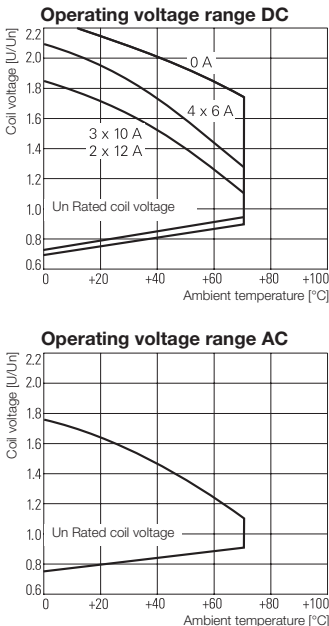
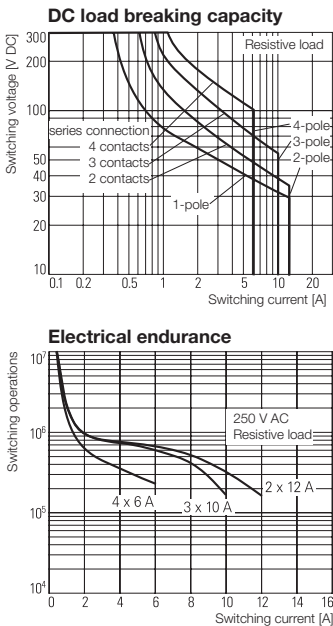
C

Circuit diagram
View of connections
Dimensions in mm



Output	
max. switching voltage AC1	250 V
Continuous current	12 A
Contact base material	AgNi 90/10
Mechanical endurance	AC coil 20*10 ⁶ / DC coil 30*10 ⁶ switching operations
Response time / Drop-out time	15ms / 10ms
Rated data	
Status indicator / Free wheel diode	see ordering data
Ambient temperature (operational)	-40 °C...+70 °C
UL 94 flammability rating	V-0
Approvals	cURus; CE; VDE;
Insulation coordination (IEC 60664)	
Rated voltage	240 V
Clearance and creepage distances for control/load side	≤ 4mm
Surge 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

DC coil

			with LED + diode
006	6 V DC	L06	
012	12 V DC	L12	AB2
024	24 V DC	L24	AC4
048	48 V DC	L48	AE8
060	60 V DC	L60	
110	110 V DC	M10	BB0
220	220 V DC	N20	

AC coil

506	6 V AC	R06
512	12 V AC	R12
524	24 V AC	R24
548	48 V AC	R48
615	115 V AC	S15
730	230 V AC	T30

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
with LED + Diode	Type	RCM270AB2	RCM270AC4	RCM270AE8	RCM270BB0
AgNi 90/10	Order No.	8957020000	8957030000	8957040000	8957050000

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	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

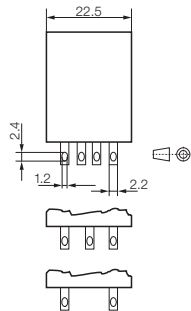
without LED	Type	RCM270524	RCM270548	RCM270615	RCM270730
AgNi 90/10	Order No.	8689760000	8689780000	8689800000	8689820000
with LED	Type	RCM270R24	RCM270R48	RCM270S15	RCM270T30
AgNi 90/10	Order No.	8689770000	8689790000	8689810000	8689830000
	Type				
	Order No.				

Note

Relays - RIDERSERIES

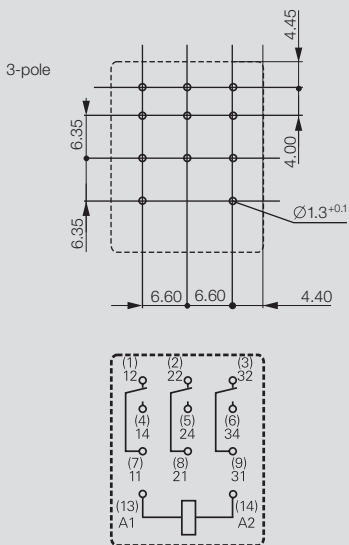
RCM relay
3 CO contact
AC/DC coil

- 2500 VA switching capacity
- Solder and plug connection
- Safe-to-touch test button, selectable locking
- White labelling panel
- Identification of coils (AC red / DC blue)



C

Circuit diagram
View of connections
Dimensions in mm



Output

max. switching voltage AC1	250 V
Continuous current	10 A
Contact base material	AgNi 90/10
Mechanical endurance	AC coil 20*10 ⁶ / DC coil 30*10 ⁶ switching operations
Response time / Drop-out time	15ms / 10ms

Rated data

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

Insulation coordination (IEC 60664)

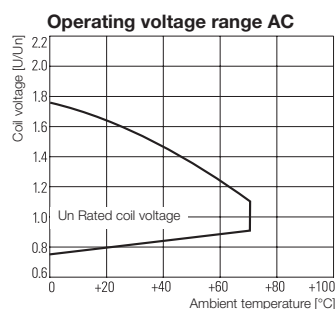
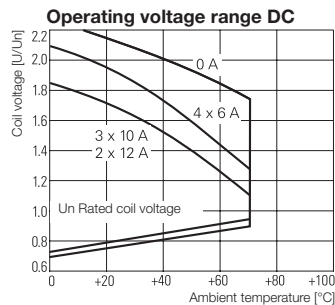
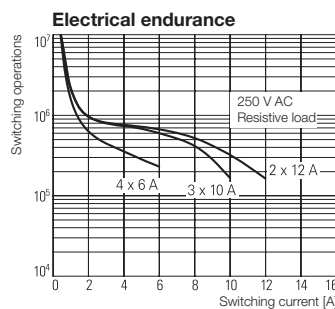
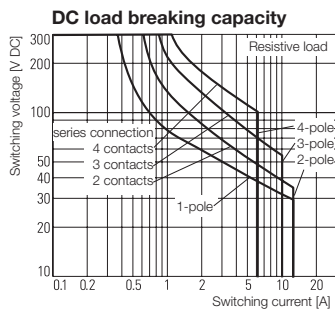
Rated voltage	240 V
Clearance and creepage distances for control/load side	≤ 4mm
Surge category	III
Pollution severity	3

Dimensions

Length x width x height	mm	28 / 22.5 / 29
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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

DC coil

006	6 V DC	L06	
012	12 V DC	L12	AB2
024	24 V DC	L24	AC4
048	48 V DC	L48	AE8
060	60 V DC	L60	
110	110 V DC	M10	BB0
220	220 V DC	N20	

AC coil

506	6 V AC	R06	
512	12 V AC	R12	
524	24 V AC	R24	
548	48 V AC	R48	
615	115 V AC	S15	
730	230 V AC	T30	

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
with LED + Diode Type	RCM370AB2	RCM370AC4	RCM370AE8	RCM370BB0
AgNi 90/10 Order No.	8957090000	8957100000	8957110000	8957120000

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%

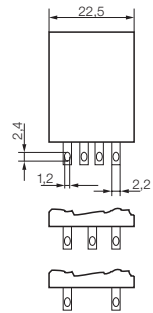
Ordering data Relay				
without LED Type	RCM370524		RCM370615	RCM370730
AgNi 90/10 Order No.	8690030000		8689980000	8690000000
with LED Type	RCM370R24	RCM370R48	RCM370S15	RCM370T30
AgNi 90/10 Order No.	8689950000	8689970000	8689990000	8690010000
Type				
Order No.				

Note				

Relays - RIDERSERIES

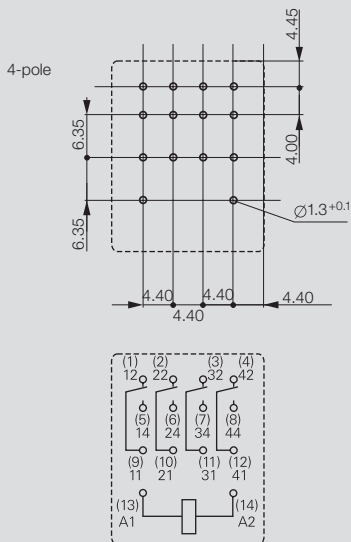
RCM relay 4 CO contact AC/DC coil

- 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
- Identification of coils (AC red / DC blue)



C

Circuit diagram View of connections Dimensions in mm



Output

max. switching voltage AC1	250 V
Continuous current	6 A
Contact base material	AgNi 90/10 or AgNi 5µm Au
Mechanical endurance	AC coil 20*10 ⁶ / DC coil 30*10 ⁶ switching operations
Response time / Drop-out time	15ms / 10ms

Rated data

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

Insulation coordination (IEC 60664)

Rated voltage	240 V
Clearance and creepage distances for control/load side	≤ 3mm
Surge category	III
Pollution severity	2

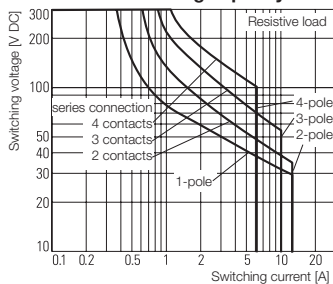
Dimensions

Length x width x height	mm	28 / 22.5 / 29
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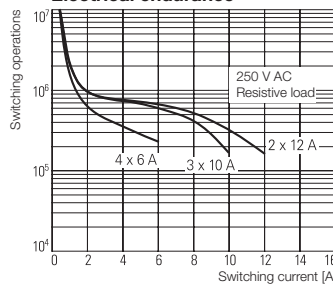
Note

Applications

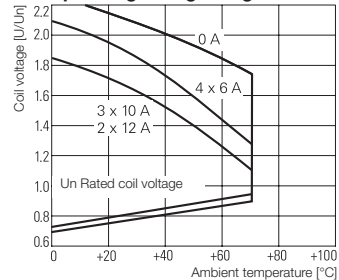
DC load breaking capacity



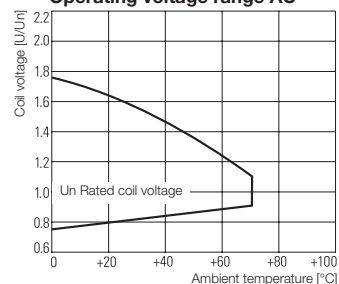
Electrical endurance



Operating voltage range DC



Operating voltage range AC



RCM relay 4 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

DC coil

006	6 V DC	L06	
012	12 V DC	L12	AB2
024	24 V DC	L24	AC4
048	48 V DC	L48	AE8
060	60 V DC	L60	
110	110 V DC	M10	BB0
220	220 V DC	N20	

AC coil

506	6 V AC	R06	
512	12 V AC	R12	
524	24 V AC	R24	
548	48 V AC	R48	
615	115 V AC	S15	
730	230 V AC	T30	

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
with LED + Diode Type	RCM470AB2	RCM470AC4	RCM470AE8	RCM470BB0
AgNi 90/10 Order No.	8957160000	8957170000	8957180000	8957190000
Note				

Ordering data

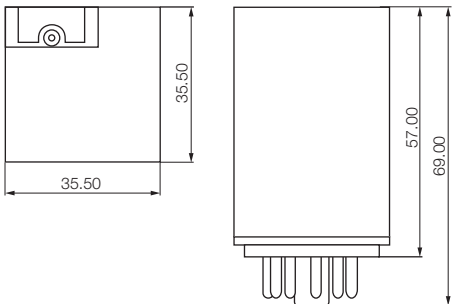
Input	24 V AC 4CO	48 V AC 4CO	115 V AC 4CO	230 V AC 4CO
Rated voltage	24 V AC	48 V AC	115 V AC	230 V AC
AC Response/dropout Volt	19,2 V / 7,2 V	38,4 V / 14,4 V	92 V / 34,5 V	184 V / 69 V
Power rating	1.0 VA	1.0 VA	1.0 VA	1.0 VA
Rated current AC	41,6 mA	21,3 mA	8,8 mA	4,3 mA
Coil resistance	192 Ω $\pm$ 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				

Relays - RIDERSERIES

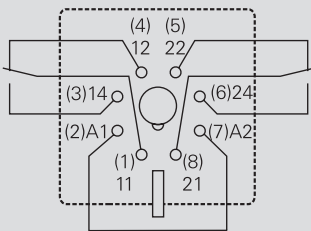
RRD relay
2 CO contact
AC/DC coil

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



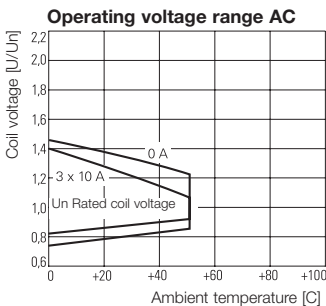
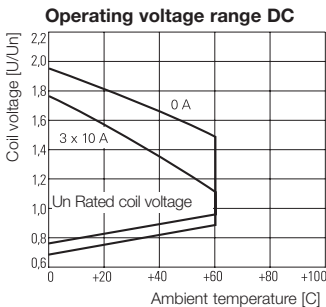
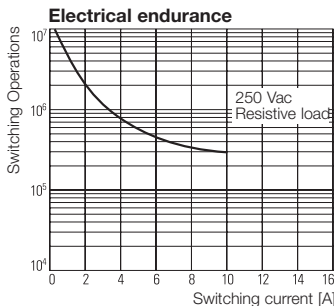
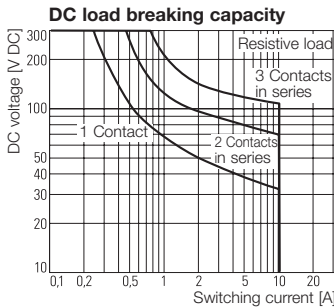
C

Circuit diagram
View of connections



Output	
max. switching voltage AC1	250 V
Continuous current	10 A
Contact base material	AgNi 90/10
Mechanical endurance	20*10 ⁶ switching cycles
Response time / Drop-out time	12 ms / 5 ms
Rated data	
Status indicator/Free wheel diode	mechanical/no
Ambient temperature (operational)	-45 °C...+50 °C
UL 94 flammability rating	V-0
Approvals	cURus; CE; VDE;
Insulation coordination (IEC 60664)	
Rated voltage	250 V
Clearance and creepage distances for control/load side	≤ 4mm
Surge 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

Free wheel diode

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

- 006 6 V AC
 012 12 V AC
 024 24 V AC
 048 48 V AC
 115 115 V AC
 230 230 V AC

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

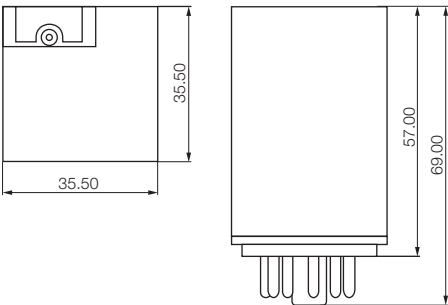
with test button	Type	RRD226024	RRD226048	RRD226115	RRD226230
AgNi 90/10	Order No.	8690270000	8690290000	8690310000	8690330000
with test button/LED	Type	RRD228024	RRD228048	RRD228115	RRD228230
AgNi 90/10	Order No.	8690280000	8690300000	8690320000	8690340000
	Type				
	Order No.				

Note

Relays - RIDERSERIES

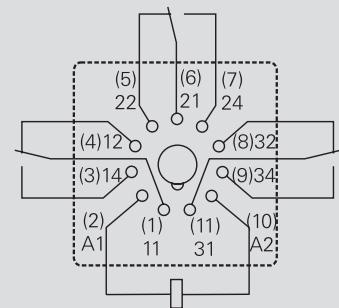
RRD relay
3 CO contact
AC/DC coil

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



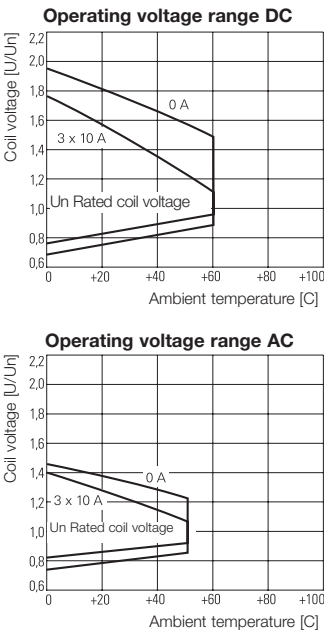
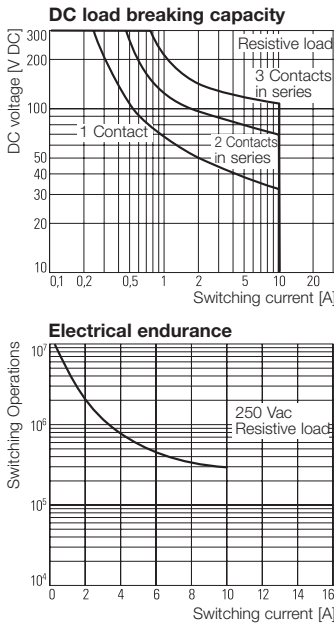
C

Circuit diagram
View of connections



Output	
max. switching voltage AC1	250 V
Continuous current	10 A
Contact base material	AgNi 90/10
Mechanical endurance	20*10 ⁶ switching cycles
Response time / Drop-out time	
Rated data	
Status indicator/Free wheel diode	mechanical/
Ambient temperature (operational)	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
Clearance and creepage distances for control/load side	≤ 4mm
Surge category	III
Pollution severity	3
Dimensions	
Length x width x height	mm 35.5 / 35.5 / x
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

006	6 V AC	
012	12 V AC	
024	24 V AC	
048	48 V AC	
115	115 V AC	
230	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
Order No.	8799030000	8690610000	8690650000	7940007742
with test button/LED Type		RRD323024	RRD323110	RRD323220
Order No.		8690620000	8690660000	8798610000
with test button Type		RRD3210C4	RRD3211B0	RRD3212C0
+ Free-wheel diode Order No.		8797650000	8797640000	8797610000
with test button/LED Type		RRD3230C4		RRD3232C0
+ Free-wheel diode Order No.		7940007732		8829400000
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%

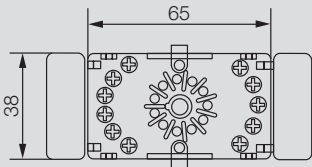
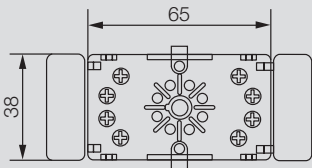
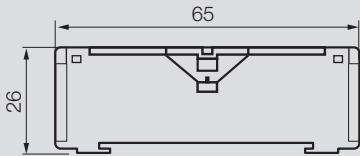
Ordering data Relay				
with test button Type	RRD326024	RRD326048	RRD326115	RRD326230
Order No.	8690450000	8690470000	8690550000	8690570000
with test button/LED Type	RRD328024	RRD328048	RRD328115	RRD328230
Order No.	8690460000	8690480000	8690560000	8690580000
Type				
Order No.				
Type				
Order No.				
Note				

Relays - RIDERSERIES

Accessories for RRD relays
Plug-in module with screw connection



Dimensions in mm



Ordering data

Description
Plug-in module with screw connections, 8-pole
Plug-in module with screw connections, 11-pole

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

Contact data
Nominal current
Nominal voltage
Dielectric strength, coil/contacts
Ambient temperature
Ingress protection class (IEC 61810)
Conductor cross-section / with wire end ferrule
Terminal torque

10 A
400 V AC
>2500 Veff
-20 °C ... + 80 °C
IP 20
2 x 2.5 mm² / 2 x 1.5 mm²
0.5 / 0.7 Nm

Retaining clip (metal)

Ordering data
Accessories
Description
Metal retaining clip, RRD

Type	Order No.
SRD-I CLIP M	8869370000

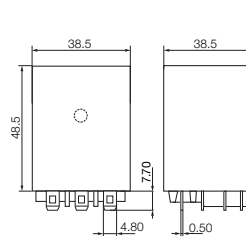
Relays - RIDERSERIES

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

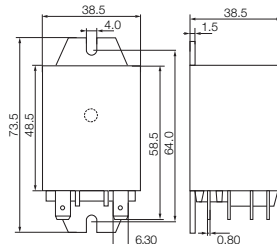
- 6000 VA switching capacity
- Mechanical indicator
- with and without test button



Cap without lug,
plug-in connections



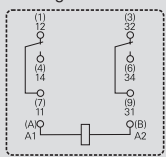
Cap with fixing lug, 6.3 mm
Faston (4.8 mm possible)



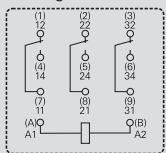
C

Circuit diagram
View of connections

2 changeover contacts

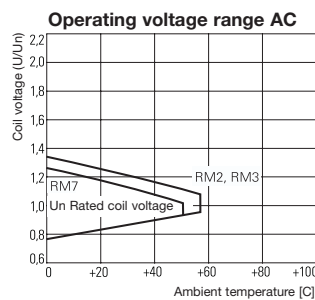
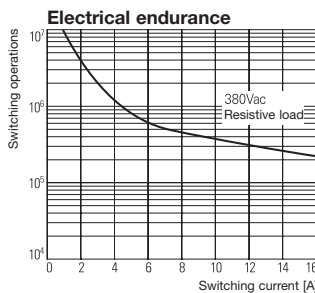
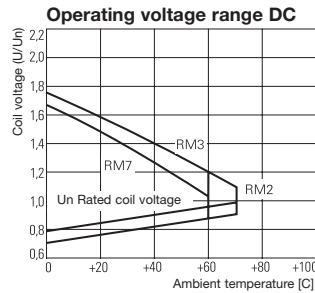
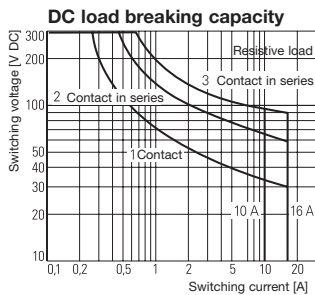


3 changeover contacts



Output	
max. switching voltage AC1	400 V
Continuous current	16 A
Contact base material	AgCdO
Mechanical endurance	20*10 ⁶ switching cycles
Response time / Drop-out time	15 ms / 10 ms
Rated data	
Status indicator/Free wheel diode	mechanical/no
Ambient temperature (operational)	-45 °C...+70 °C
UL 94 flammability rating	V-0
Approvals	cURus; CE; VDE;
Insulation coordination (IEC 60664)	
Rated voltage	400 V
Clearance and creepage distances for control/load side	≤ 6mm
Surge 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				
Housing	2 Cap without lug, 4.8 mm Faston 5 Cap with lug, 6.3 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	230 V AC 2CO	
Rated voltage	24 V DC	24 V AC	230 V AC	
DC Response/dropout Volt	18 V / 2.4 V	19.2 V / 9.6 V	184 V / 92 V	
Power rating	1.2 W	2.3 VA	2.3 VA	
Rated current DC	50.5 mA	94.2 mA	10.1 mA	
Coil resistance	475 Ω ±10%	86 Ω ±10%	8300 Ω ±12%	

Ordering data Relay				
without test button Type	RPW202024	RPW202524	RPW202730	
AgCdO Order No.	8690730000	on request	8690720000	
Type Order No.				
Type Order No.				

Note				
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Ordering data

Input	24 V DC 3CO	24 V AC 3CO	230 V AC 3CO	
Rated voltage	24 V DC	24 V AC	230 V AC	
DC Response/dropout Volt	18 V / 2.4 V	19.2 V / 9.6 V	184 V / 92 V	
Power rating	1.6 W	2.8 VA	2.8 VA	
Rated current DC	69.6 mA	109.2 mA	11.7 mA	
Coil resistance	345 Ω ±10%	80 Ω ±10%	7500 Ω ±10%	

Ordering data Relay				
without test button Type	RPW702024	RPW702524	RPW702730	
AgCdO Order No.	8690760000	8690740000	8690750000	
Type Order No.				
Type Order No.				

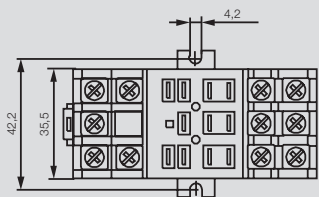
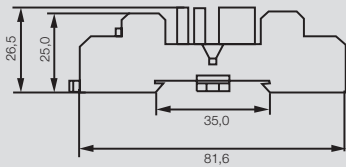
Note				
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Relays - RIDERSERIES

Accessories for RPW
Plug-in module with screw connection



Dimensions in mm



Ordering data

Description	Type	Qty	Order No.
Plug-in module with screw connections	SPW 3CO	25	8697680000
Contact data			
Nominal current	16 A		
Nominal voltage	250 V AC		
Dielectric strength, coil/contacts	>2500 Vms		
Ambient temperature	−40 °C ... +40 °C		
Terminal torque	0.8 Nm		
Max.	1.2 Nm		

Relays – RS-SERIES – RS 30

1 NCC, 1 NOC
or 1 change-over contact

RS 30

Screw connection

1 NOC
1 NCC



1 change-over contact



RS 30

Isolating plug with screw connection

1 NOC
1 NCC



1 change-over contact



Technical data

Input voltage 5 ... 60 V ± 10 %; 115 V/230 V ± 5 % – 15 %

Nominal consumption – (W)
Nominal consumption – (VA)
Drop-out current of relay (at 20 °C)
Drop-out current of relay (at 20 °C)
Pick-up current
Output voltage max.
Continuous current

Derating curve
a = fitted on mounting rail in horizontal row without spacing
b = fitted on mounting rail in horizontal row with 20 mm spacing



Making current
Making power under ohmic load
Min. switching power/switching current
Duration of bounce
Typical switching times
–, Pick-up delay
–, Drop-out delay
Max. switching frequency
Contact material
Service life, mechanical
–, 24 V-, 1A ohmic load
–, 230 V-, 3A, ohmic load
Storage temperature
Ambient temperature, fitted on mounting rail
–, in horizontal row without spacing
–, in horizontal row with > 20 mm spacing

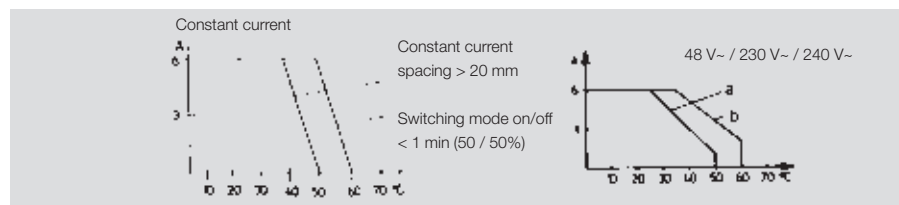
Insulation coordination to EN 50178

Surge category
Pollution severity

Dimensions

Mounting width
Length (at 90° to mounting rail)
Height (with TS 32 / TS 35 x 7.5)

5 VTTL	12 V~	24 V~	24 V=	48 V~	48 V=	60 V~	115 V~	115 V=	230 V~ ²⁾	240 V~
0.45 W ¹⁾	0.45 W	0.45 W	0.45 W	0.45 W	0.45 W	0.45 W	–	0.82 W	–	–
–	–	–	0.7 VA	–	0.6 VA	–	0.8 VA	–	0.8 VA	1.2 VA
–	3 mA	3 mA	2.5 mA~	2 mA	2.5 mA~	1 mA~	–	2 mA~	–	0.5 mA~
–	–	–	3.5 mA~	–	4.5 mA~	–	1 mA~	–	1 mA~	1 mA~
–	–	12 mA	–	10 mA	–	–	6 mA	4.3 mA	–	–
250 V	250 V	250 V	250 V	250 V	250 V	250 V	250 V	250 V	250 V	250 V
5 A	6 A	6 A	6 A	6 A	5 A	5 A	5 A	5 A	3 A	3 A



8 A
2000 VA / 100 W
250 mW / 10 mA
≤ 3 ms
≤ 8 ms
≤ 7 ms
70 Hz
AgNi, gold-flashed
> 10 ⁷ switching cycles
> 5 x 10 ⁵ switching cycles
> 7 x 10 ⁵ switching cycles
–40 °C ... +60 °C
–25 °C ... +40 °C
–25 °C ... +50 °C

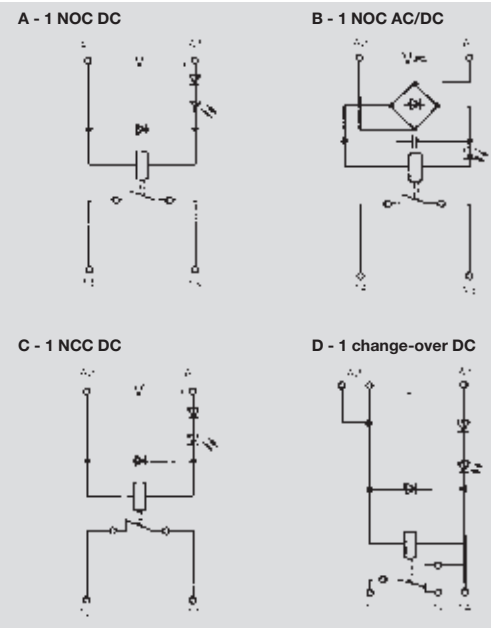
III
2

11.2 mm NOC / NCC, 25 mm change-over contact
70 mm (74 mm BL/SL version)
56 mm / 51.5 mm

1) Rated consumption of auxiliary voltage 24 V~
2) 230 V~ on request

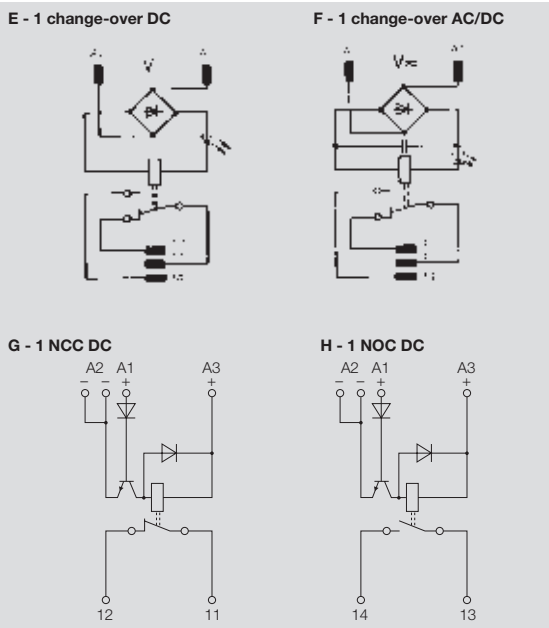
RS 30

Screw connection



RS 30

Isolating plug with screw connection



Ordering data

Wiring diagram	
Input voltage	Function indicator
5 V ₋ , TTL	without
12 V ₋	without LED red
24 V ₋	without LED green LED red
24 V _≈	without LED green LED red
48 V ₋	without LED green LED red
48 V _≈	without LED green
60 V ₋	without LED red
115 V ₋	without LED green LED red
115 V _≈	without LED green LED red
230 V ₋	without LED green LED red
240 V ₋	LED green LED red

A	B	C	D
NOC	NOC	NCC	change-over
1129421001		1129521001	
1101661001		1100961001	
1101611001		1100911001	1181511001
1101621001		1100921001	1181521001
	1101761001		
	1101711001		
	1101721001		
1101861001			
1101811001			
1101821001			
	1101911001		
1102061001			
1155161001			
1155111001		1155211001	
1155121001		1155221001	
	1102111001		
	1102121001		
	1102261001		
	1102211001		
	1102221001		
	1128511001		
	1128521001		

E	F	G	H
change-over	change-over	NCC	NOC
		1167660000	1167760000
	1129660000		
1100260000			
1100210000			
1100220000			
	1100360000		
1100410000			
1100420000			
	1100560000		
	1100620000		
	1100760000		
	1100860000		

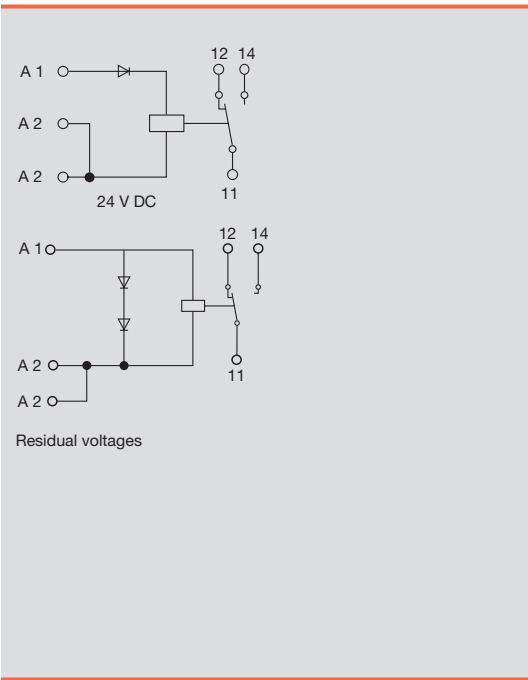
Relays - RS-SERIES - RS 31

1 change-over contact
AC/DC/UC coil

- For high switching capacity
- Suitable for switching inductive loads



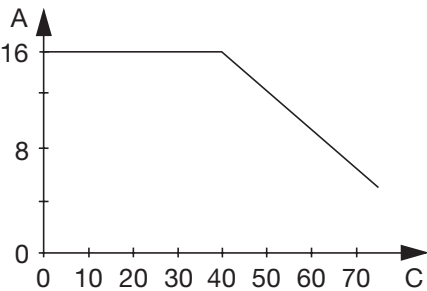
C



Output	
max. switching voltage AC1/Continuous current	250 V/16 A
min. switching power	1 W
Response time / Drop-out time	9ms/10ms
Contact base material	AgCdO
Mechanical endurance	3*10 ⁷ switching cycles
max. switching frequency at rated load	0.1 Hz
Rated data	
Status indicator/Free wheel diode	LED red/Yes
Reverse pol. prot	available
Ambient temperature (operational)	-25 °C...+40 °C
Storage temperature	-40 °C...+60 °C
Humidity	40°C/93% RH, no condensation
Approvals	CE;
Insulation coordination (EN 50178)	
Standards	EN 50178
Rated voltage	250 V
Impulse withstand voltage	6 kV
Clearance and creepage distances for control/load side	3 mm
Surge category	III
Pollution severity	2
Protective separation to VDE 0106 part 101	no
Dimensions	
Clamping range (rating- / min. / max.)	mm ²
Length x width x height	mm
Note	

Applications

Derating curve

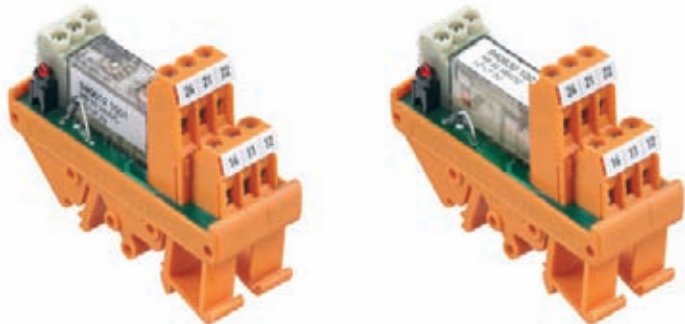


1 change-over contact
AC/DC/UC coil

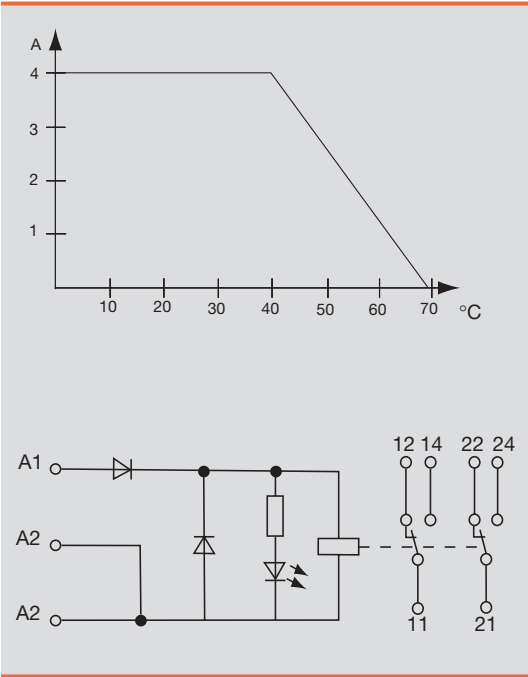
Ordering data		24VDC 1CO	48VDC 1CO	115VAC 1CO	230VAC 1CO
Input					
Rated voltage		24 V DC ±10%	48 V DC ±10 %	115 V AC +5 %/ -15 %	230 V AC + 5 / - 15%
Rated current AC				8 mA	4.5mA
Rated current DC		40 mA	20 mA		
Power rating		1W	1W	1 VA	1VA
AC Response/dropout Volt				98 V	195 V
DC Response/dropout Volt		21.5V	43 V		
AC pickup/dropout current				-/1.5mA	-/2.2mA
DC pickup/dropout current		-/11.5mA	-/13.5mA		
Ordering data					
Relay with socket					
Screw connection	Type	RS 31 24VDC LD LP 1U	RS 31 48VDC LD 1U LP	RS 31 115VAC LD LP 1U	RS 31 230VAC LD LP 1U
	Order No.	1128361001	1150761001	1150461001	1128461001
Tension spring connection	Type				
	Order No.				
Ordering data					
Spare relay (pluggable)					
	Type				
	Order No.				
Note					
Ordering data					
Input					
Rated voltage					
Rated current AC					
Rated current DC					
Power rating					
AC Response/dropout Volt					
DC Response/dropout Volt					
AC pickup/dropout current					
DC pickup/dropout current					
Ordering data					
Relay with socket					
Screw connection	Type				
	Order No.				
Tension spring connection	Type				
	Order No.				
Ordering data					
Spare relay (pluggable)					
	Type				
	Order No.				
Note					

Relays - RS-SERIES - RS 32

2 change-over contacts
DC coil



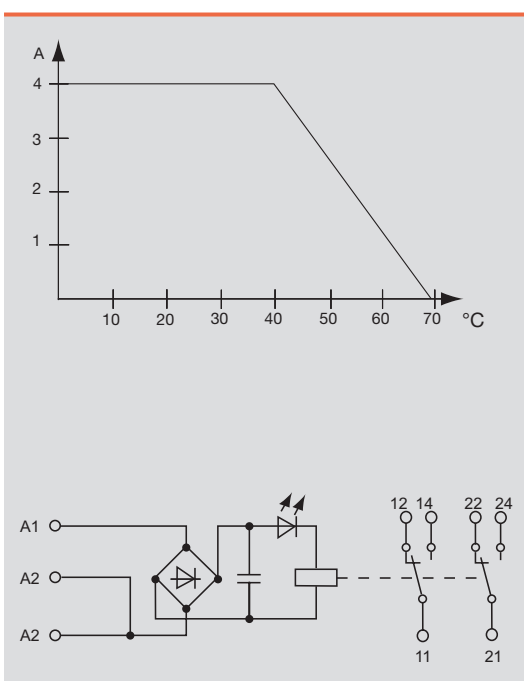
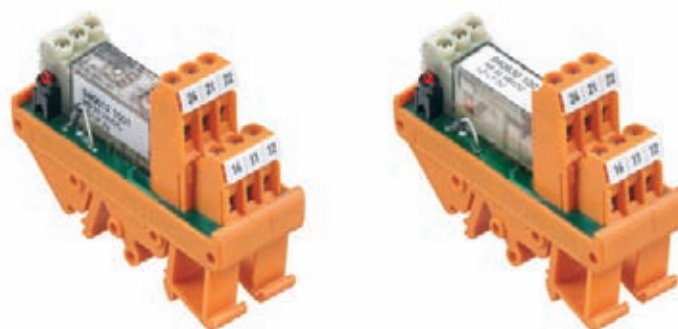
C



Output		
max. switching voltage AC1/Continuous current	250 V/4 A	
min. switching power	10 V / 10 mA	
Response time / Drop-out time	13ms/10ms	
Contact base material	AgNi 90/10	
Mechanical endurance	>30*10 ⁶ switching cycles	
max. switching frequency at rated load	0.1 Hz	
Rated data		
Status indicator/Free wheel diode	LED red/no	
Reverse pol. prot	available	
Ambient temperature (operational)	-25 °C...+40 °C	
Storage temperature	-40 °C...+60 °C	
Humidity	40°C/93% RH, no condensation	
Approvals	CE;	
Insulation coordination (EN 50178)		
Standards	EN 50178	
Rated voltage	250 V	
Impulse withstand voltage	4 kV	
Clearance and creepage distances for control/load side	3 mm	
Surge category	III	
Pollution severity	2	
Protective separation to VDE 0106 part 101	no	
Dimensions		
Clamping range (rating- / min. / max.)	mm ²	Screw connection
Length x width x height	mm	Tension clamp connection
Note		

Ordering data		12VDC 2CO	24VDC 2CO	48VDC 2CO	
Input					
Rated voltage		12 V DC ±10 %	24 V DC ±10%	48 V DC ±10 %	
Rated current AC					
Rated current DC		50 mA	25 mA	12 mA	
Power rating		0.6W	0.6W	0.6W	
AC Response/dropout Volt					
DC Response/dropout Volt		11 V	21.5V	43 V	
AC pickup/dropout current					
DC pickup/dropout current		-/9.5mA	-/5 mA	-/2 mA	
Ordering data					
Complete module					
Screw connection	Type	RS 32 12VDC LD LP 2U	RS 32 24VDC LD LP 2U	RS 32 48VDC LD LP 2U	
	Order No.	9406021001	9406121001	9406321001	
Tension clamp connection	Type				
	Order No.				
Ordering data					
Spare relay, pluggable					
	Type				
	Order No.				
Note					

2 change over contacts UC coil



Output	
max. switching voltage AC1/Continuous current	250 V/4 A
min. switching power	5 V / 10 mA
Response time / Drop-out time	13ms/10ms
Contact base material	AgNi 90/10
Mechanical endurance	>30*10 ⁶ switching cycles
max. switching frequency at rated load	0.1 Hz
Rated data	
Status indicator/Free wheel diode	LED red/no
Reverse pol. prot	available
Ambient temperature (operational)	-25 °C...+40 °C
Storage temperature	-40 °C...+60 °C
Humidity	40°C/93% RH, no condensation
Approvals	CE;
Insulation coordination (EN 50178)	
Standards	EN 50178
Rated voltage	250 V
Impulse withstand voltage	4 kV
Clearance and creepage distances for control/load side	3 mm
Surge category	III
Pollution severity	2
Protective separation to VDE 0106 part 101	no
Dimensions	
	Screw connection
Clamping range (rating- / min. / max.)	mm ² 2.5 / 0.5 / 4
Length x width x height	mm 70 / 25 / 63.5
Note	
	Tension clamp connection

Ordering data

Input	24VUC 2CO	48VUC 2CO	115VUC 2CO	230VUC 2CO
Rated voltage	24 V UC ±10 %	48 V UC ±10 %	115 V UC + 5 / - 15%	230 V UC + 5 / - 15%
Rated current AC	28 mA	18mAac	5mA	4.3mA
Rated current DC	18 mA	12 mA	5 mA	4.3mA
Power rating	0.6W // 0.9VA	0.6W // 0.9VA	0.5W // 0.6VA	1W //1VA
AC Response/dropout Volt				
DC Response/dropout Volt	21.5V	43 V	98 V	195 V
AC pickup/dropout current	-/2.5mA	-/4.5mA	-/1.5mA	-/2 mA
DC pickup/dropout current	-/4.5mA	-/2 mA	-/1 mA	-/1.2mA

Ordering data Complete module

Screw connection	Type	RS 32 24VUC LD LP 2U	RS 32 48VUC LD LP 2U	RS 32 115VUC LD LP 2U	RS 32 230VUC LD LP 2U
Order No.		9406221001	9406421001	9406621001	9406721001
Tension clamp connection	Type				
Order No.					

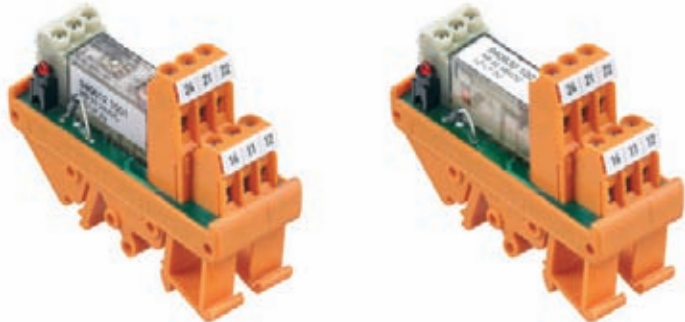
Ordering data Spare relay, pluggable

Type				
Order No.				

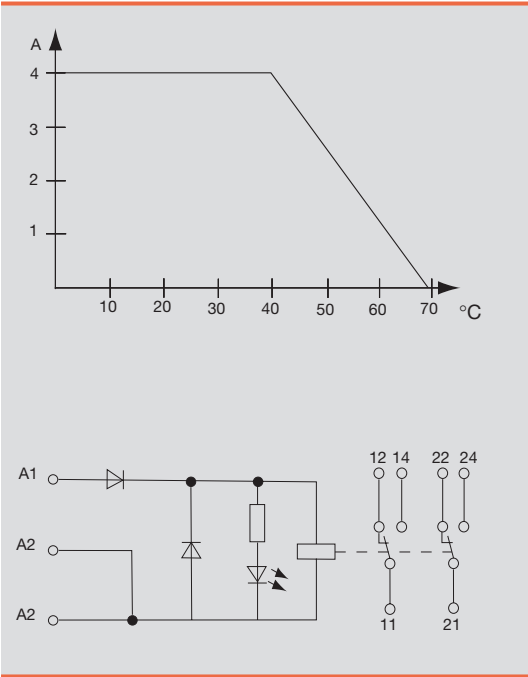
Note				
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Relays - RS-SERIES - RS 32

2 change over contacts
multiple voltage input



C



Output			
max. switching voltage AC1/Continuous current	250 V/4 A		
min. switching power	10 V / 10 mA		
Response time / Drop-out time	13ms/10ms		
Contact base material	AgNi 90/10		
Mechanical endurance	>30*10 ⁶ switching cycles		
max. switching frequency at rated load	0.1 Hz		
Rated data			
Status indicator/Free wheel diode	LED red/no		
Reverse pol. prot	available		
Ambient temperature (operational)	-25 °C...+40 °C		
Storage temperature	-40 °C...+60 °C		
Humidity	40°C/93% RH, no condensation		
Approvals	CE;		
Insulation coordination (EN 50178)			
Standards	EN 50178		
Rated voltage	250 V		
Impulse withstand voltage	4 kV		
Clearance and creepage distances for control/load side	3 mm		
Surge category	III		
Pollution severity	2		
Protective separation to VDE 0106 part 101	no		
Dimensions			
Clamping range (rating- / min. / max.)	mm ²	Screw connection	Tension clamp connection
Length x width x height	mm	2.5 / 0.5 / 4	
		70 / 25 / 63.5	
Note			

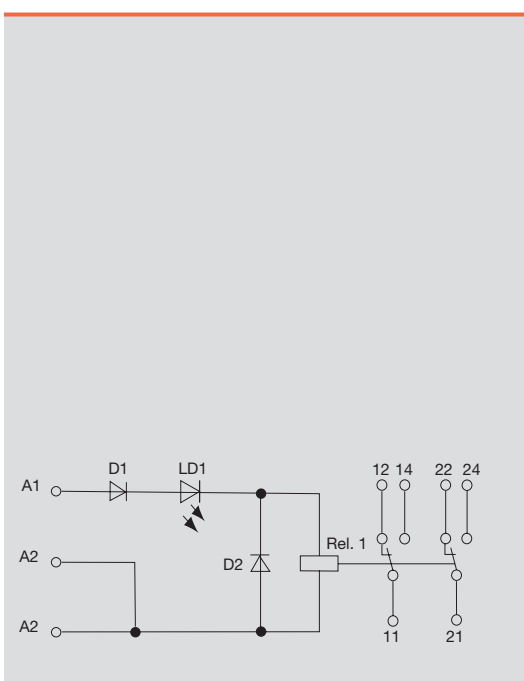
Ordering data

Input		24-48VUC 2CO	115-230VUC 2CO		
Rated voltage		24 V // 48 V UC ±10 %	115 // 230 V UC + 5 / - 15%		
Rated current AC		28 mA / 22 mA	5.6mA/5.3mA		
Rated current DC		18 mA / 20 mA	5.4mA/5mA		
Power rating		0.6W // 0.9VA	1W // 1VA		
AC Response/dropout Volt					
DC Response/dropout Volt		21.5V/43V	98 V/ 195 V		
AC pickup/dropout current		-/3mA // -/4.5mA	-/1.5mA // -/2mA		
DC pickup/dropout current		-/5mA // -/2mA	-/1mA // -/1.2mA		
Ordering data					
Complete module					
Screw connection	Type	RS 32 24-48VUC LD LP 2U	RS 32 115-230VUC LD 2U		
	Order No.	1122661001	1122761001		
Tension clamp connection	Type				
	Order No.				
Ordering data					
Spare relay, pluggable					
	Type				
	Order No.				
Note					

2 changeover contacts

Positive-action contacts

- DC coil
- Relay with 2 positive-action changeover contacts to EN 50205
- 2-pole safety relay with 2 changeover contacts *)
- Mounts on TS32/35



Output		
max. switching voltage AC1/Continuous current	250 V/4 A	
min. switching power	5 V / 10 mA	
Response time / Drop-out time	13ms/10ms	
Contact base material	AgNi 90/10	
Mechanical endurance	>20*10 ⁶ switching cycles	
max. switching frequency at rated load	0.1 Hz	
Rated data		
Status indicator/Free wheel diode	LED red/no	
Reverse pol. prot	Yes	
Ambient temperature (operational)	-25 °C...+40 °C	
Storage temperature	-40 °C...+85 °C	
Humidity	40°C/93% RH, no condensation	
Approvals	CE;	
Insulation coordination (EN 50178)		
Standards	EN 50178	
Rated voltage	300 V	
Impulse withstand voltage	4 kV	
Clearance and creepage distances for control/load side	4 mm	
Surge category	III	
Pollution severity	2	
Protective separation to VDE 0106 part 101	no	
Dimensions		
Screw connection		
Tension clamp connection		
Clamping range (rating- / min. / max.)	mm ²	2.5 / 0.5 / 4
Length x width x height	mm	70 / 25 / 63.5
Note		
*) According to EN50205, only 1 NO / 1 NC is permitted for safety circuits		

Ordering data

Input		24 V DC 2CO
Rated voltage		24 V DC ±10%
Rated current AC		
Rated current DC		21 mA
Power rating		0.5 W
AC Response/dropout Volt		
DC Response/dropout Volt		16 V // 10 V
AC pickup/dropout current		
DC pickup/dropout current		12.5 mA // 7 mA

Ordering data

Complete module

Screw connection	Type	RS32 24 VDC SAFETY
Order No.		8872160000
Tension clamp connection	Type	
Order No.		

Ordering data

Spare relay, pluggable

Type	
Order No.	

Note

Relays - RS-SERIES - with RSM multiple interface

4-/8-/16-way, ea. with 1 COC

- Red LEDs , other colours on request
- Mounting feet can also be mounted turned through an angle of 180°

RSM 4 R / RSM 4 RS

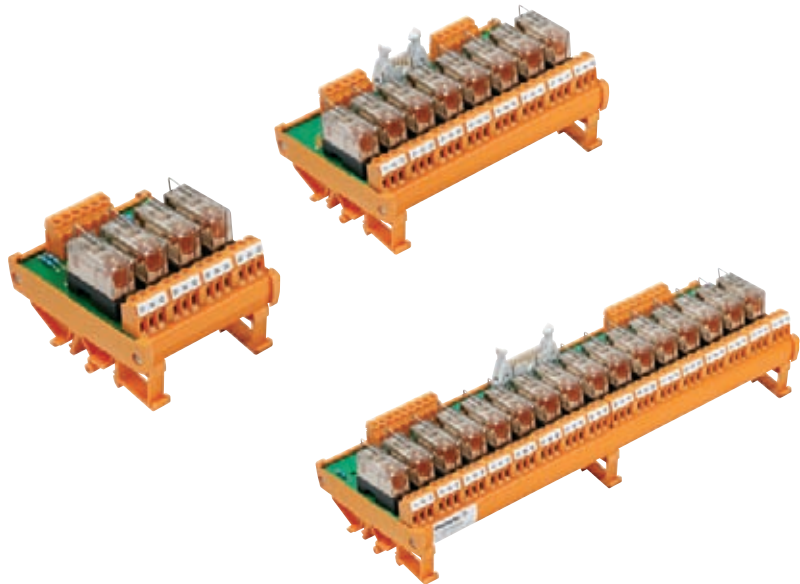
4 relays
soldered or plug-in

RSM 8 R / RSM 8 RS

8 relays
soldered or plug-in

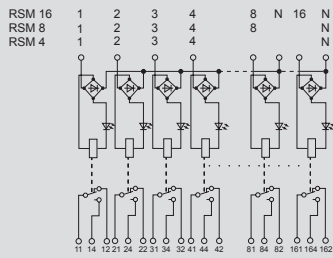
RSM 16 R / RSM 16 RS

16 relays
soldered or plug-in

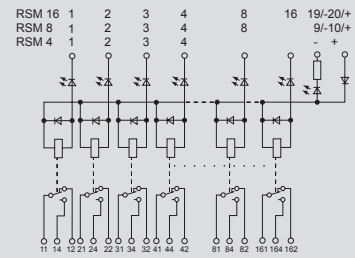


Technical data

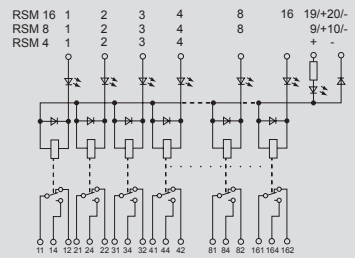
Rated data		24 V DC	24 V AC/DC	48 V DC	115 V AC/DC	230 V AC
Input voltage		0.45 W	–	–	–	–
Nominal consumption DC	soldered relay	0.75 W	0.45 W	0.75 W	–	–
	plug-in relay	–	–	–	–	–
Nominal consumption AC	soldered relay	–	–	–	–	–
	plug-in relay	–	0.7 VA	–	0.6 VA	1.2 VA
Pick-up current DC	soldered relay	12 mA	–	–	–	–
	plug-in relay	23 mA	12 mA	14 mA	5 mA	–
Pick-up current AC	soldered relay	–	–	–	–	–
	plug-in relay	–	16.5 mA	–	6 mA	4 mA
Drop-out current of relay (at 20 °C)		2 mA		1.5 mA		1 mA
Output voltage max.		250 V	250 V	250 V	250 V	250 V
Continuous current		6 A	6 A	6 A	6 A	3 A
Derating curve						
a = fitted on mounting rail in horizontal row without spacing b = fitted on mounting rail in horizontal row with 20 mm spacing						
Continuous current						
Ambient temperature						
Typical making times						
Pick-up delay (AC / DC)		≤ 8 ms	≤ 10 ms / 10 ms	≤ 12 ms	≤ 8 ms / 10 ms	≤ 10 ms
Drop-out delay (AC / DC)		≤ 7 ms	≤ 15 ms / 20 ms	≤ 11 ms	≤ 5 ms / 8 ms	≤ 10 ms
Duration of bounce		≤ 3 ms				
Making current		8 A				
Making power under ohmic load		2000 VA				
Min. switching power / switching current		250 mW/10 mA				
Contact material		AgNi 90/10, AgNi0,15, gold-flashed				
Service life		> 30 x 10 ⁶ switching cycles				
		> 5 x 10 ⁵ switching cycles				
		> 7 x 10 ⁵ switching cycles				
Storage temperature		–40 °C ... +60 °C				
Ambient temperature		–25 °C ... +50 °C				
Insulation coordination to EN 50178						
Surge category		III				
Pollution severity		2				
Dimensions						
Conductor cross-section (screw connection)		0.5 ... 2.5 mm ²				



common plus potential,
minus connected



common minus potential,
plus connected



Ordering data

Connection system		
Input	Screw connection	• Plug-in relay Screw connection and multiple plug to IEC 603-1/DIN 41651 • Relay soldered Multiple plug to IEC 603-1/DIN 41651
Output	Screw connection	

		4 relays RSM 4 R/RS (B = 75 mm)	8 relays RSM 8 R/RS (B = 145 mm)	16 relays RSM 16 R/RS (B = 285 mm)
Input voltage				
24 V DC, switching plus	Relay pluggable	1113361001 ¹⁾	1113561001 ¹⁾	1113761001 ¹⁾
	Relay soldered	1112361001	1107761001	1107861001
24 V DC, switching minus	Relay pluggable	1113461001 ¹⁾	1113661001 ¹⁾	1113861001 ¹⁾
24 V AC/DC	Relay pluggable	1173461001	1173561001	1173661001
48 V DC, switching plus	Relay pluggable		1114161001	
115 V AC/DC	Relay pluggable	1114561001	1114661001	1114761001
230 V AC	Relay pluggable	1114861001	1114961001	1115061001

¹⁾ approved by Germanisch Lloyd

Spare relays (pluggable)

For RSM ... R/RS, 24 V

For RSM ... R/RS, 48 V

For RSM ... R/RS, 115 V and 230 V

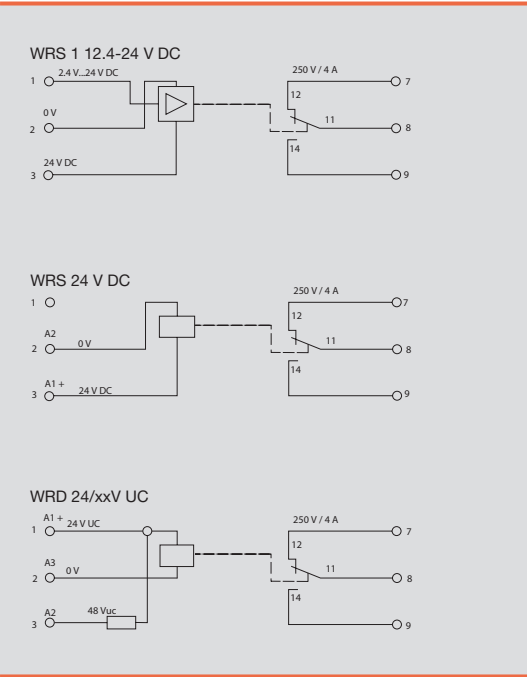
Input voltage	Contact material	Remarks	Order no.
24 V DC	AgNi 90/10	RT 314024 with clip	8630780000
	AgNi 90/10	RT 314024 without clip	4058480000
48 V DC	AgNi 90/10	RT 314048 without clip	4058740000
115 V DC	AgNi 90/10	RT 314110 with clip	8630770000
	AgNi 90/10	RT 314110 without clip	4058500000

Relays - WAVESERIES

1 change-over contact
AC/DC/UC coil

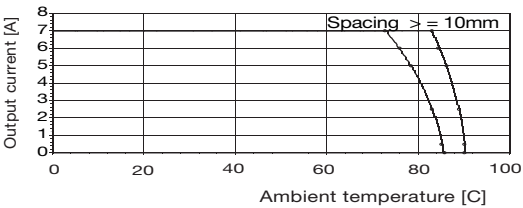


C



Output		
max. switching voltage AC1/Continuous current	250 V/5 A	
min. switching power	100 mA / 5 V DC	
Response time / Drop-out time	7ms/6ms	
Contact base material	Gold alloy	
Mechanical endurance	20*10 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	
Ambient temperature (operational)	-25 °C...+50 °C	
Storage temperature	-40 °C...+60 °C	
Humidity	40°C/93% RH, no condensation	
Approvals	CSA;cURus;CE;	
Insulation coordination (EN 50178)		
Standards	EN 50178	
Rated voltage	300 V	
Impulse withstand voltage	6 kV (1.2/50 µs)	
Clearance and creepage distances for control/load side	≥ 5.5 mm	
Surge category	III	
Pollution severity	2	
Protective separation to VDE 0106 part 101	Yes	
Dimensions		
Clamping range (rating- / min. / max.)	mm ²	1.5 / 0.5 / 2.5
Length x width x height	mm	72 / 22.5 / 92.4
Note		

Applications



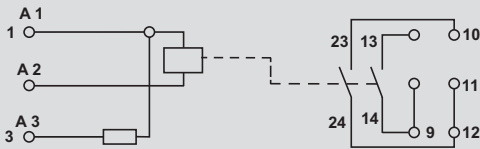
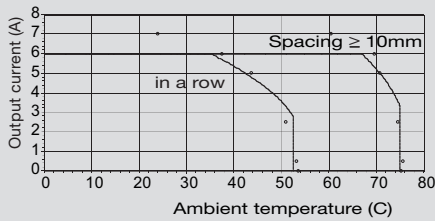
1 change-over contact AC/DC/UC coil

Ordering data	2.4-24 V DC 1CO	24 V DC 1CO	24 / 48 V UC 1CO	24 V UC/230 V AC 1CO
Input				
Rated voltage	2,4...24 V DC $\pm 10\%$	24 V DC $\pm 10\%$	24 V // 48 V UC $\pm 10\%$	24 V UC // 230 V AC, $\pm 10\%$
Rated current AC			approx. 14 mA	approx. 15 mA
Rated current DC	4.6 mA	9 mA	14 mA	14 mA (24 V DC)
Power rating	200 mW	220 mW	0.35 VA / 0.5 VA	0,34 VA / 0,32 W // 3,5 VA
AC Response/dropout Volt			16 V/9,5 V // 29 V/15 V	13 V /9 V //115 V /66 V
DC Response/dropout Volt	1.9 V	16 V / 7.5 V	16 V/9,5 V // 29 V/15 V	13 V /9 V (24 V DC)
AC pickup/dropout current			9 mA/4,5 mA // 8,3 mA/4,1 mA	7.5 mA/4.7 mA // 7.4 mA/4.3 mA
DC pickup/dropout current	3.88 mA	5.7 mA / 2.2 mA	9 mA/4,5 mA // 8,3 mA/4,1 mA	7.5 mA/4.7 mA
Ordering data				
Relay with socket				
Screw connection Type	WRS1 2.4-24VDC 1U	WRS1 24VDC 1U	WRS1 24/48VUC 1U	WRS1 24VUC/230VAC 1U
Order No.	8275320000	8275350000	8286280000	8418230000
Tension spring connection Type				
Order No.				
Ordering data				
Spare relay (pluggable)				
Type				
Order No.				
Note				
Ordering data				
Input				
Rated voltage				
Rated current AC				
Rated current DC				
Power rating				
AC Response/dropout Volt				
DC Response/dropout Volt				
AC pickup/dropout current				
DC pickup/dropout current				
Ordering data				
Relay with socket				
Screw connection Type				
Order No.				
Tension spring connection Type				
Order No.				
Ordering data				
Spare relay (pluggable)				
Type				
Order No.				
Note				

Relays - WAVESERIES

2 NO contacts
AC/DC/UC coil

Derating curve



Output

max. switching voltage AC1/Continuous current	250 V/5 A
min. switching power	100 mA / 5 V DC
Response time / Drop-out time	5ms/6ms
Contact base material	AgSnO ₂
Mechanical endurance	50*10 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
Ambient temperature (operational)	-25 °C...+50 °C
Storage temperature	-40 °C...+60 °C
Humidity	40°C/93% RH, no condensation
Approvals	CSA;cURus;CE;

Insulation coordination (EN 50178)

Standards	EN 50178
Rated voltage	300 V
Impulse withstand voltage	6 kV (1.2/50 µs)
Clearance and creepage distances for control/load side	≥ 8 mm
Surge category	III
Pollution severity	2
Protective separation to VDE 0106 part 101	Yes

Dimensions

		Screw connection	Tension clamp connection
Clamping range (rating- / min. / max.)	mm ²	1.5 / 0.5 / 2.5	
Length x width x height	mm	92.4 / 22.5 / 112.4	

Note

Ordering data

Input

Rated voltage	12 V DC // 24 V DC, ±10 %
Rated current AC	
Rated current DC	approx. 20 mA
Power rating	0,24 W // 0,5 W
AC Response/dropout Volt	
DC Response/dropout Volt	7.5 V / 3.5 V // 14.5 V/6.1 V
AC pickup/dropout current	
DC pickup/dropout current	10 mA/4.2 mA // 10 mA/4 mA

12 / 24 V DC 2NO

24 / 48 V UC 2NO

24 V // 48 V UC ±10 %
approx. 11 mA
approx. 8.5 mA
0,17 W/0,21 VA // 0,4 W/0,48 VA
13.5 V / 9 V // 24 V/16 V
16 V / 7.8 V // 28 V/12 V
4.4 mA/2.7 mA // 4.3 mA/2.6 mA
4.3 mA/1.6 mA // 4.4 mA/1.6 mA

115 V UC/230 V AC 2NO

115 V UC // 230 V AC, ±10 %
approx. 10 mA
9 mA (115 V DC)
1 VA / 0,9 W // 2,5 VA
58 V / 22 V // 110 V/40 V
54 V / 20 V (115 V DC)
4.8 mA/1.7 mA V // 5 mA/2 mA
4 mA / 2 mA

Ordering data

Complete module

Screw connection	Type	WRS2 12/24VDC 2A
Order No.		8418240000
Tension clamp connection	Type	
Order No.		

WRS2 24/48VUC 2A

8418250000

WRS2 115VUC/230VAC 2A

8418260000

Ordering data

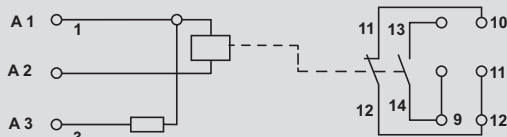
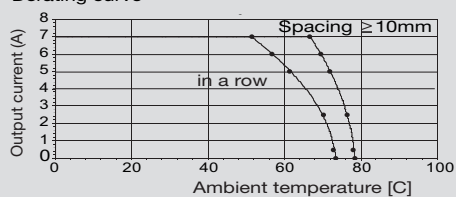
Spare relay, pluggable

Type	
Order No.	

Note

1 NC contact / 1 NO contact
DC/UC coil


Derating curve

**Output**

max. switching voltage AC1/Continuous current	250 V/5 A
min. switching power	100 mA / 5 V
Response time / Drop-out time	7ms/5ms
Contact base material	AgSnO2
Mechanical endurance	50*10 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
Ambient temperature (operational)	-25 °C...+50 °C
Storage temperature	-40 °C...+60 °C
Humidity	40°C/93% RH, no condensation
Approvals	CSA;cURus;CE;

Insulation coordination (EN 50178)

Standards	EN 50178
Rated voltage	300 V
Impulse withstand voltage	6 kV (1.2/50 µs)
Clearance and creepage distances for control/load side	≥ 8 mm
Surge category	III
Pollution severity	2
Protective separation to VDE 0106 part 101	Yes

Dimensions

		Screw connection	Tension clamp connection
Clamping range (rating- / min. / max.)	mm ²	1.5 / 0.5 / 2.5	
Length x width x height	mm	92.4 / 22.5 / 112.4	

Note**Ordering data****Input**

Rated voltage	12 V DC // 24 V DC, ±10 %
Rated current AC	
Rated current DC	approx. 20 mA
Power rating	0,24 W // 0,5 W
AC Response/dropout Volt	
DC Response/dropout Volt	7.5 V / 3.5 V // 14.5 V/6.1 V
AC pickup/dropout current	
DC pickup/dropout current	10 mA/4.2 mA // 10 mA/4 mA

12/24 V DC 1NO/1NC**24/48 V UC 1NO/1NC**

24 V // 48 V UC ±10 %
approx. 11 mA
approx. 8.5 mA
0,17 W/0,21 VA // 0,4 W/0,48 VA
13.5 V / 9 V // 24 V/16 V
13.5 V / 9 V // 24 V/16 V
4.4 mA/2.7 mA // 4.3 mA/1.6 mA
4.3 mA/1.6 mA // 4.4 mA/1.6 mA

115 V UC/230 V AC

115 V UC // 230 V AC, ±10 %
approx. 10 mA
9 mA (115 V DC)
1 VA / 0,9 W // 2,5 VA
58 V / 22 V // 110 V/40 V
54 V / 20 V (115 V DC)
4.8 mA/1.7 mA // 5 mA/1.6 mA
4 mA/1.6 mA

Ordering data**Complete module**

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

WRS2 12/24VDC 1A1R

8418270000

WRS2 24/48VUC 1A1R

8418280000

WRS2 115VUC/230VAC 1A1R

8418290000**Ordering data****Spare relay, pluggable**

Type	
Order No.	

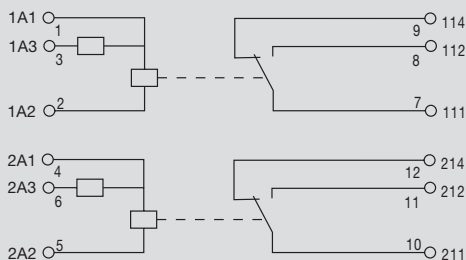
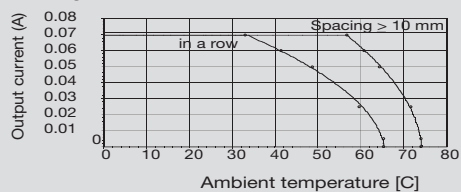
Note

Relays - WAVESERIES

2 change-over contacts
AC/DC/UC coil

C

Derating curve



Output

max. switching voltage AC1/Continuous current	250 V/5 A
min. switching power	100 mA / 5 V DC
Response time / Drop-out time	6ms/10ms
Contact base material	Gold alloy
Mechanical endurance	20*10 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
Ambient temperature (operational)	-25 °C...+50 °C
Storage temperature	-40 °C...+60 °C
Humidity	40°C/93% RH, no condensation
Approvals	CSA;cURus;CE;

Insulation coordination (EN 50178)

Standards	EN 50178
Rated voltage	300 V
Impulse withstand voltage	6 kV (1.2/50 µs)
Clearance and creepage distances for control/load side	≥ 5.5 mm
Surge category	III
Pollution severity	2
Protective separation to VDE 0106 part 101	Yes

Dimensions

		Screw connection	Tension clamp connection
Clamping range (rating- / min. / max.)	mm ²	1.5 / 0.5 / 2.5	
Length x width x height	mm	92.4 / 22.5 / 112.4	

Note

Ordering data

Input	12/24 V DC 2CO	24/48 V UC 2CO	24 V UC/230 V AC 2CO	
Rated voltage	12 V DC // 24 V DC, ±10 %	24 V // 48 V UC ±10 %	24 V UC // 230 V AC, ±10 %	
Rated current AC		approx. 15 mA	approx. 15 mA	
Rated current DC	approx. 23 mA	14 mA	14 mA (24 V DC)	
Power rating	0,26 W // 0,53 W	0,35 VA(W) // 0,7 VA(W)	0,35 W // 3,45 VA	
AC Response/dropout Volt			13 V/9 V // 115 V/66 V	
DC Response/dropout Volt	8.5 V / 3 V // 15 V/4.8 V	16 V / 9,5 V // 29 V / 15 V	13 V / 9 V (24 V DC)	
AC pickup/dropout current		9 mA/4,5 mA // 8,3 mA/4,1 mA	7,5 mA/4,7 mA // 7,4 mA/4,3 mA	
DC pickup/dropout current	15,2 mA/5,7 mA//15,3 mA/5,6 mA	9 mA/4,5 mA // 8,3 mA/4,1 mA	7,5 mA // 4,7 mA	

Ordering data

Complete module

Screw connection	Type	WRS2 12/24VDC 2U	WRS2 24/48VUC 2U	WRS2 24VUC/230VAC 2U	
	Order No.	8418300000	8418310000	8418320000	
Tension clamp connection	Type				
	Order No.				

Ordering data

Spare relay, pluggable

	Type				
	Order No.				

Note

