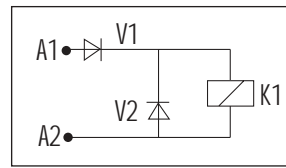


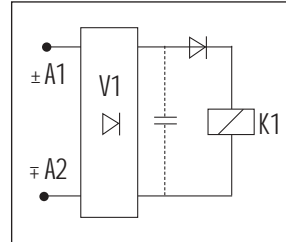
## General information

- Single relays housed in slim, rail mounting enclosures taking up the minimum of space.
- Multiple relays (up to 24) in compact rail mounting enclosures with plug-in option. Termination via screw terminal or ribbon cable.
- Input voltages from 24...240 volts. AC and DC options.
- Coil suppression to prevent interference with and damage to associated electronic devices.
- LED indication that the coil is energized.
- Electrical isolation between input (coil) and output (contacts) forms an effective barrier to electro-magnetic interference passing in either direction.
- Single and multiple contacts.
- Various contact materials for the best possible performance in each application.
- Rising-clamp screw terminals for efficient wiring. Each terminal can be given an alpha-numeric identification.
- Label facility for module identification.
- All modules fit onto 35 mm DIN-rail. Many also fit onto asymmetrical G-rail.
- Some modules have manual override facility.

## Relay input side (coil)

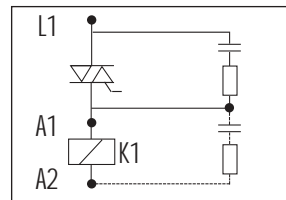


DC input: The supply must be connected with A1 positive and A2 negative. Diode V1 prevents damage if the supply is connected with the reverse polarity. Diode V2 is a flywheel diode which suppresses the back e.m.f. voltage transient at switch-off. The LED indicator will be connected either in series with the coil or in parallel, in which case a current limiting resistor will be used.



AC or DC input: The bridge rectifier V1 enables the relay to be used on DC of either polarity or on AC. Two diodes in the bridge will suppress the back e.m.f. voltage transient at switch-off. The LED indicator will be connected in series or parallel with the coil.

The operation of sensitive AC relays can be sometimes impaired by inductive or capacitive coupling of stray signals into the input wiring.



A resistor can be fitted across the coil to bypass these stray signals. Alternatively, an RC-network will be effective and will dissipate less power when energized.

Contact material	Typical properties	Typical applications	Voltage and current levels
<b>Silver-nickel 0,15 gold flashed</b> (AgNi 0,15 hv)	Widely used general purpose material.	General purpose. Suitable for inductive loads.	≥ 12 V ≥ 10 mA
<b>Silver, gold plated</b> (Ag htv)	Gold plating resists contamination but switching loads greater than 30 V/0,2 A removes the gold. Performance reverts to silver.	General purpose. For low to mid-range loads.	≥ 100 mV ≥ 1 mA
<b>Silver-cadmium oxide</b> (AgCdO)	Resists welding and burn-out at high voltages. Hardly used because of environmental reasons	For heavy inductive or capacitive loads.	≥ 12 V ≥ 100 mA
<b>Palladium silver, Gold/Rhodium</b> (PdAg-AuRh)	high resistance against oxidation; hard material; stable transfer resistance	Low level signals to mid-range loads.	1 mV...125 V 1 mA...1 A
<b>Silver Tin oxide</b> (AgSnO)	Resists welding and burn-out at high voltages. minimal material erosion	Switching circuits with high on off loading	≥ 12 V ≥ 10 mA
<b>Silver Tin oxide, gold plated</b> (AgSnO htv)	Gold plating resists contamination but switching loads greater than 30 V/50 mA removes the gold. Performance reverts to AgSnO contacts	General purpose. Suitable for small and large loads.	≥ 100 mV ≥ 1 mA

## Output side (contacts)

When choosing contact material for a particular application, many factors have to be taken into account, for example: voltage, current, nature of the load and the effect on the contact lifetime.

## Contact life / no. of operations

Each load comprises a resistive, capacitive and an inductive component. It is mainly the inductive component which affects the lifetime. Inductive loads such as solenoids, motors and contactors produce a voltage when switched off which is many times greater than supply voltage. This can quickly burn out the contact. In order to increase the lifetime of the contact, the load must be suppressed.

In theory, a varistor or resistor/capacitor network (RC) across the contact is possible,

but dangerous leakage currents may flow to the load when the contact is open. In practice, it is better to fit the suppressor across the load, where it is not only safer but is closer to the source of interference. Murrelektronik can supply many types of universal or made-to-measure suppressors. These suppressors dampen the high voltage transient and reduce the arc at the contacts. Contact life depends upon voltage, current and the nature of the load.

## Switching capabilities of the various categories

The categories are defined by EN 60946, VDE 0660 and IEC 947 and these list the maximum approved current in exactly defined criteria.

Category	Voltage type	Typical application
AC 1	AC voltage	Switching from resistive load
AC 15	AC voltage	Switching from inductive load
DC 13	DC voltage	Switching from inductive load

The standards require a minimum lifespan of 6060 cycles in the defined environment. Using EMC suppression modules when switching inductive loads, the lifespan and the allowed current loading of the contact can be greatly increased. This is shown in the table below.

## Contact material, silver gold flashed

Switched voltage	Switched current	Electrical life No. of operations	Type of load	Lifetime multiplication factor
V	A			
24~	8	$0,5 \times 10^6$	} Resistive	1
30~	4	$2 \times 10^6$		1
60~	0,8	$4 \times 10^6$		1
250~	0,4	$6 \times 10^6$		1
24~	0,5	$10^6$	} Inductive $\tau = 40 \text{ ms}$	0,1
24~	1,0	$2 \times 10^5$		0,1
48~	0,5	$2 \times 10^5$		0,1
48~	0,2	$10^6$		0,1
220~	1	$5 \times 10^5$	} Inductive $\cos \phi = 0,4$	0,1
220~	0,5	$2 \times 10^6$		0,1
220~	0,4	$4 \times 10^6$		0,1
220~	0,1	$8 \times 10^6$		0,1

Typical values for standard relay contacts

## Wiring techniques

When several relays are installed side by side on a rail, common terminals can be joined by means of a linking bar. This eliminates extra wiring and terminals. Some screw terminals have a double entry point enabling 2 wires to be held in one terminal.

These features simplify wiring techniques. For example, 2 or 3 wire sensors can be connected directly to their relay interfaces without the need for an intermediate terminal rail.

Suppression of the load	Additional switch-off delay	Precise clamping of transient	Bipolar suppression	Advantage / Disadvantage
<b>Diode</b> 	large	yes ( $U_D$ )	no	Advantages: <ul style="list-style-type: none"> <li>• simple</li> <li>• inexpensive</li> <li>• reliable</li> <li>• suitable for any load</li> <li>• very low back e.m.f.</li> </ul> Disadvantages: <ul style="list-style-type: none"> <li>• DC only</li> <li>• increased release time</li> </ul>
<b>Diode/Zener diode combination</b> 	medium to small	yes ( $U_{ZD}$ )	no	Advantages: <ul style="list-style-type: none"> <li>• suitable for any load</li> <li>• reliable</li> </ul> Disadvantages: <ul style="list-style-type: none"> <li>• no damping below <math>U_{ZD}</math></li> </ul>
<b>Zener diode</b> 	medium to small	yes ( $U_{ZD}$ )	yes	Advantages: <ul style="list-style-type: none"> <li>• inexpensive</li> <li>• suitable for any load</li> <li>• precise clamping voltage</li> <li>• AC or DC</li> </ul> Disadvantages: <ul style="list-style-type: none"> <li>• no damping below <math>U_{ZD}</math></li> </ul>
<b>Varistor</b> 	medium to small	yes ( $U_{VDR}$ )	yes	Advantages: <ul style="list-style-type: none"> <li>• high energy absorption for size</li> <li>• suitable for any load</li> <li>• AC or DC</li> </ul> Disadvantages: <ul style="list-style-type: none"> <li>• no damping below <math>U_{VDR}</math></li> <li>• limited lifespan</li> </ul>
<b>RC-network</b> 	medium to small	no	yes	Advantages: <ul style="list-style-type: none"> <li>• HF damping</li> <li>• AC or DC</li> <li>• no minimum damping voltage</li> </ul> Disadvantages: <ul style="list-style-type: none"> <li>• must be matched to load</li> <li>• limited lifespan</li> </ul>

## Single-channel



### MIRO

The modules are offered in two sizes:

6,2 mm module housing with integrated relay with 1 C/O contact and common bridges

12,4 mm module housing with integrated relay with 2 C/O contact and common bridges

Connection is via cage clamp terminals or screw terminal. The minus plug-in jumper saves space and wiring time.

Snaps on to DIN-rail to EN 50022.

From page 3.7.5



### RMM, RMME, RMMDE

Width 12 mm. Attractive and functional design.

Separation between input and outputs is clearly defined. Each module can be individually labelled.

LED indicator. Snaps on to DIN-rail to EN 50022 or EN 50035.

Versions with plug-in jumper on the input side simplify wiring, because no loop in of the A2 common is then necessary.

From page 3.7.14



### RMMD/RMMDH

Compact design incorporating clever features. 1 relay with 1 C/O contact or 2 N/O contact with a width of only 12 mm.

Switching current of up to 8 A possible.

Up to 50 modules can be linked using the plug-in jumper.

The RMMDH also has a switch with 3 settings «HAND-O-AUTO» which allows manual operation or simulations to be carried out.

Snaps on to DIN-rail to EN 50022 (35 mm) and EN 50 035 (32 mm).

From page 3.7.17

## Multi-channel



### RM, RME

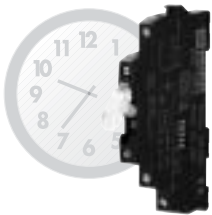
Width 22,5 mm. There are up to 4 relays in each housing. Each can be individually labelled.

The modules are offered with screw terminal or plug in screw terminals. This allows them to be replaced in maintenance very quickly. Positive guided contacts are also on offer.

Snaps on to DIN and C-rail to EN 50022 or EN 50035.

From page 3.7.21

## Timers



### MIRO Timers

Compact form 6,2 mm resp. 12,4 mm.

Modules are available as switch on delay, pulse extension, switch off delay and multi-function.

Snaps on to DIN-rail to EN 50022.

Connection is via cage clamp terminals or screw terminal.

The minus plug-in jumper saves space and wiring time.

Page 3.7.25

## MIRO 6,2 – The original

### Small, smaller and smallest



Murrelektronik was the first manufacturer of slimline relay modules years ago.

- 6,2 mm module housing with integrated relay with 1 C/O contact and common bridges
- 12,4 mm module housing with integrated relay with 2 C/O contact and common bridges

### Clearly defined technical data from Murrelektronik



Both modules and terminals are clearly and permanently labelled. Terminal labelling is to EN 50005. Each module also has a module label plate for self marking. LED-Status indicator is standard. The switching current of the relay is max. 6 A. According to the various categories the switching capabilities at resistive and inductive load (depending on the voltage) is exactly defined (see page 3.7.2).

### Murrelektronik sets trends



The minus plug-in jumper, a idea from Murrelektronik, saves both space and wiring time.

- no additional common minus terminals
- no time consuming wiring of the common minuses
- cost reduction

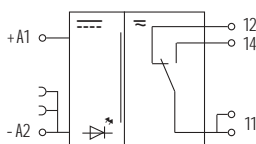
### Individual connection technology



Whether you want to use screw terminal or cage clamp terminals Murrelektronik offer a solution.

- The connection can easily be made because of the user friendly design.
- The units are also suitable for use in the building installation industry.
- The building management industry is offered a further advantage with the HAND-O-AUTO switch, which can act as a circuit breaker.

### Safe separation, sealed relay



The wide range, which can be used in numerous applications, offer a high degree of security.

Whether relay or opto-coupler, the module offer the perfect solution. Safe separation to VDE 0106 and a sealed relay housing are further advantages.

The MIRO opto coupler range offer high switching frequencies and noise free operation.

## MIRO

### Murrelektronik Interface Terminal relays

### Output relays/input relays

### With enhanced features

#### MR 6,2 mm

Output relay  
1 C/O contact



#### MR 6,2 mm

Output relay  
1 N/O contact



#### MR 6,2 mm

Input relay  
1 C/O contact



#### MR 6,2 mm

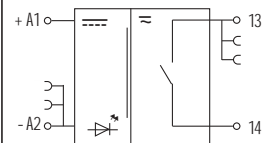
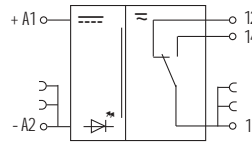
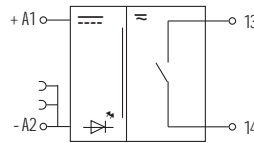
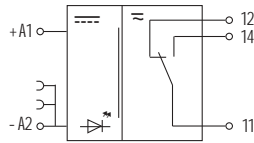
Input relay  
1 N/O contact



### Circuit diagram

Common connection up to max. 50 V AC/DC

At connection voltages of 110 and 230 V, A2 does not feature potential sockets



### Ordering data

	Art.-No.	Art.-No.	Art.-No.	Art.-No.
Input voltage	spring clamp/screw terminals	spring clamp/screw terminals	spring clamp/screw terminals	spring clamp/screw terminals
12 V DC	UL 6652050			
24 V DC	UL + CSA 6652000	UL + CSA 6652002	UL + CSA 6652005	UL + CSA 6652004
24 V AC/DC	UL + CSA 6652001	UL 6652015	UL + CSA 6652003	
48 V DC	UL + CSA 6652020		UL + CSA 6652021	
110 V AC/DC	UL + CSA 6652030		UL + CSA 6652031	
230 V AC/DC	UL + CSA 6652040		UL + CSA 6652041	

### Technical data

Input (coil)	
Input voltage/-current	12 V DC
	10 ... 15 V DC / approx. 20 mA
	24 V DC
	19,2 ... 30 V DC / approx. 14 mA
	24 V AC/DC
	19,2 ... 30 V AC/DC / approx. 17 mA
	48 V DC
	40 ... 53 V DC / approx. 12 mA
	110 V AC/DC
	95 ... 121 V AC/DC / approx. 4 mA
	230 V AC/DC
	195 ... 253 V AC/DC / approx. 3 mA

Status indicator

LED green

LED yellow

### Technical data Output (contact)

Max. switched voltage	250 V AC/DC	30 V AC/36 V DC <sup>1)</sup>
Max. switched current	6 A (see table, switching capabilities to EN 60947-5-1)	50 mA <sup>1)</sup>
Min. load current	10 mA/12 V DC	1 mA/12 V DC
Max. power rating (voltage dependent)	1500 VA/120 W	1500 VA/120 W
Contact material	silver tin oxide	silver tin oxide, gold plated
Energize/release/contact bounce time	10/15/1,5 ms	

### General data

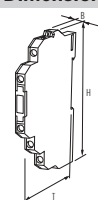
Mech./elect. life	2 x 10 <sup>7</sup> /load dependent (for inductive loads we recommend interference suppression components connected parallel to the coil)	
Max. switching frequency	10 Hz	
Test insulation voltage	4 kV/AC; safe separation to EN 60947-1	
Air and creepage distance	6/8 mm	
Temperature range	-20...+55 °C	
Mounting method	DIN-rail mounting to EN 50022	

Dimension H x B x T	90 x 6,2 x 65 mm	78 x 6,2 x 65 mm	90 x 6,2 x 65 mm	78 x 6,2 x 65 mm
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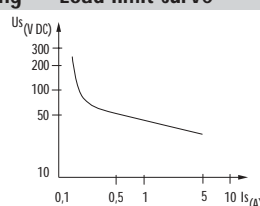
### Accessories

Bridging link max. 2 A	Art.-No. 90961
Bridging comb 10-pole, red	Art.-No. 90976
End caps, 2 pieces, red	Art.-No. 90982
Bridging comb 10-pole, blue	Art.-No. 90975
End caps, 2 pieces, blue	Art.-No. 90980
Wire chain 16-pole	Art.-No. 90977
Label plate	Art.-No. 90901

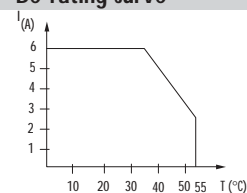
### Dimension drawing



### Load limit curve



### De-rating curve



### Switching capabilities to EN 60947

	AC 1	AC 15	DC 13
24 V	6 A	3 A	1 A
110 V	6 A	3 A	0,2 A
230 V	6 A	3 A	0,1 A

### Notes

For screw-type terminal connection, the item number changes from 6652... to 52... (i.e. the prefix 66 is dropped). <sup>1)</sup> When the listed values are exceeded the gold plating is destroyed. The relay will then take on the properties of an output type

## MIRO

### Murrelektronik Interface Terminal relays

With manual switch to VDI 3814

With enhanced features

### MR 6,2 mm

Output relay  
1 N/O contact  
with protected H-O-A switch



### MR 6,2 mm

Input relay  
1 N/O contact  
with protected H-O-A switch

### MR 6,2 mm

Output relay  
1 N/O contact  
with H-O-A switch

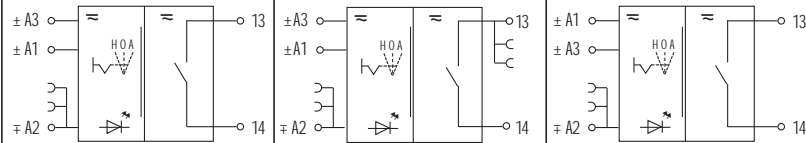


### MR 6,2 mm

Output relay  
1 N/O contact  
with H-O-A switch

### Circuit diagram

Common connection up to max. 50 V AC/DC



### Ordering data

	Art.-No.	Art.-No.	Art.-No.	Art.-No.
Input voltage	spring clamp/screw terminals	spring clamp/screw terminals	screw terminals	screw terminals
24 V DC				
24 V AC/DC	UL + CSA	<b>6652007</b>	<b>6652009</b>	<b>526010</b>
48 V DC				
110 V AC/DC				
230 V AC/DC				

### Technical data Input (coil)

Input voltage/current	24 V DC			
	24 V AC/DC	19,2 ... 30 V AC/DC / approx. 17 mA	19,2 ... 28 V AC/DC / approx. 7 mA	19,2 ... 26,4 V AC/DC / approx. 17 mA
	48 V DC			
	110 V AC/DC			
	230 V AC/DC			

Status indicator	LED green for relay activation	LED yellow for relay activation	LED green for automatic mode LED red for manual mode	LED red for 0 and manual mode
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### Technical data Output (contact)

Max. switched voltage	250 V AC/DC	30 V AC/36 V DC <sup>1)</sup>	250 V AC/DC	
Max. switched current	6 A (see table)	max. 50 mA <sup>1)</sup>	6 A (see table)	
Min. load current	10 mA/12 V DC	1 mA/12 V DC	10 mA/12 V DC	
Max. power rating (voltage dependent)	1500 VA/120 W	1500 VA/120 W	1500 VA/120 W	
Contact material	silver tin oxide	silver tin oxide, gold plated	silver tin oxide	
Energize/release/contact bounce time	10/15/1,5 ms		8/20/2 ms	

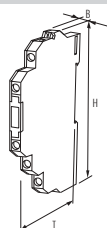
### General data

Mech./elect. life	2 x 10 <sup>7</sup> / load dependent (for inductive loads we recommend interference suppression components connected parallel to the coil)			
Max. switching frequency	10 Hz			
Test insulation voltage	4 kV/AC; safe separation to EN 60947-1			
Air and creepage distance	6/8 mm			
Temperature range	-20 ... +55 °C			
Mounting method	DIN-rail mounting to EN 50022			
Dimension H x B x T	90 x 6,2 x 65 mm			

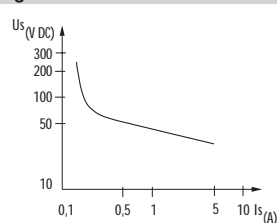
### Accessories

Bridging link max. 2 A	Art.-No. 90961
Bridging comb 10-pole, red	Art.-No. 90976
End caps, 2 pieces, red	Art.-No. 90982
Bridging comb 10-pole, blue	Art.-No. 90975
End caps, 2 pieces, blue	Art.-No. 90980
Wire chain 16-pole	Art.-No. 90977
Label plate	Art.-No. 90901

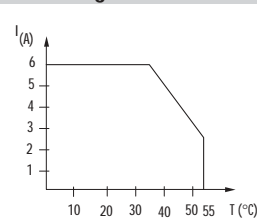
### Dimension drawing



### Load limit curve



### De-rating curve



### Switching capabilities to EN 60947

	AC 1	AC 15	DC 13
24 V	6 A	3 A	1 A
110 V	6 A	3 A	0,2 A
230 V	6 A	3 A	0,1 A

### Notes

For screw-type terminal connection, the item number changes from 6652... to 52... (i.e. the prefix 66 is dropped). <sup>1)</sup> When the listed values are exceeded the gold plating is destroyed. The relay will then take on the properties of an output type.

## MIRO

### Murrelektronik Interface Terminal relays

With contact isolation link on the output

With opposite common and for 3-wire initiators

With enhanced features

### MR 6,2 mm

Isolation link relay module  
1 C/O contact  
with isolation function



### MR 6,2 mm

Isolation link relay module  
1 N/O contact  
with isolation function



### MR 6,2 mm

Output relay  
1 N/O contact  
with soldering terminal



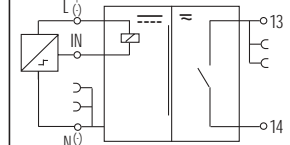
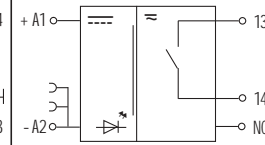
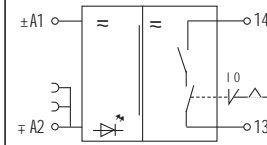
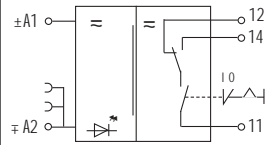
### MR 6,2 mm

Input relay  
1 N/O contact  
for 3-wire NPN sensors

#### Circuit diagram

Common connection up to max. 50 V AC/DC

At connection voltages of 110 and 230 V, A2 does not feature potential sockets



#### Ordering data

	Art.-No.	Art.-No.	Art.-No.	Art.-No.
Input voltage	spring clamp/screw terminals	spring clamp/screw terminals	spring clamp/screw terminals	spring clamp/screw terminals
24 V DC			UL + CSA <b>6652006</b>	
24 V AC/DC	UL + CSA <b>6652010</b>	UL + CSA <b>6652011</b>		UL + CSA <sup>1)</sup> <b>6652008</b>
48 V DC				
110 V AC/DC				
230 V AC/DC				<sup>1)</sup> <b>6652048</b>

#### Technical data Input (coil)

Input voltage/-current	19,2 ... 30 V DC / approx. 14 mA	19,2 ... 30 V AC/DC / approx. 17 mA	195 ... 253 V AC/DC / approx. 3 mA
24 V DC			
24 V AC/DC			
48 V DC			
110 V AC/DC			
230 V AC/DC			

Status indicator	LED green	LED green	LED green	LED yellow
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#### Technical data Output (contact)

Max. switched voltage	250 V AC/DC		30 V AC/36 V DC <sup>2)</sup>
Max. switched current	6 A (see table)		50 mA <sup>2)</sup>
Min. load current	10 mA/12 V DC		1 mA/12 V DC
Max. power rating (voltage dependent)	1500 VA/120 W		1500 VA/120 W
Contact material	silver tin oxide		silver tin oxide, gold plated
Energize/release/contact bounce time	10/15/1,5 ms		

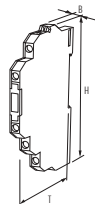
#### General data

Mech./elect. life	2 x 10 <sup>7</sup> /load dependent (for inductive loads we recommend interference suppression components connected parallel to the coil)		
Max. switching frequency	10 Hz		
Test insulation voltage	4 kV/AC; safe separation to EN 60947-1		
Air and creepage distance	6/8 mm		
Temperature range	-20...+55 °C		
Mounting method	DIN-rail mounting to EN 50022		
Dimension H x B x T	90 x 6,2 x 65 mm	78 x 6,2 x 65 mm	90 x 6,2 x 65 mm

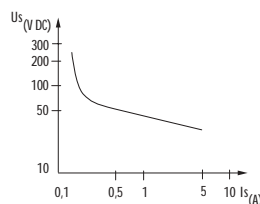
#### Accessories

Bridging link max. 2 A	Art.-No. 90961
Bridging comb 10-pole, red	Art.-No. 90976
End caps, 2 pieces, red	Art.-No. 90982
Bridging comb 10-pole, blue	Art.-No. 90975
End caps, 2 pieces, blue	Art.-No. 90980
Wire chain 16-pole	Art.-No. 90977
Label plate	Art.-No. 90901

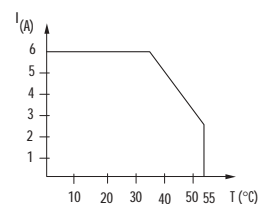
#### Dimension drawing



#### Load limit curve



#### De-rating curve



#### Switching capabilities to EN 60947

	AC 1	AC 15	DC 13
24 V	6 A	3 A	1 A
110 V	6 A	3 A	0,2 A
230 V	6 A	3 A	0,1 A

#### Notes

For screw-type terminal connection, the item number changes from 6652... to 52... (i.e. the prefix 66 is dropped). <sup>1)</sup> Suitable for NPN and PNP sensors.  
<sup>2)</sup> When the listed values are exceeded the gold plating is destroyed. The relay will then take on the properties of an output type

## MIRO

### Murrelektronik Interface Terminal relays

#### MR 12,4 mm

Output relay  
2 C/O contacts  
with enhanced features



#### MR 12,4 mm

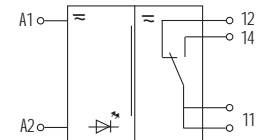
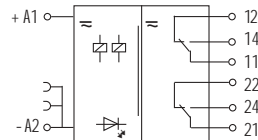
Input relay  
2 C/O contacts  
with enhanced features

#### MR 12,4 mm

Input relay  
1 C/O contact  
Multi-voltage input

#### Circuit diagram

At connection voltages of 110 and 230 V, A2 does not feature potential sockets



Ordering data	Art.-No.	Art.-No.	Art.-No.
Input voltage	spring clamp/screw terminals	spring clamp/screw terminals	screw terminals
24 V DC	UL <b>6652102</b>	UL <b>6652110</b>	<b>52160</b>
24 V AC/DC	UL <b>6652103</b>	UL <b>6652111</b>	<b>52160</b>
48 V DC	UL <b>6652120</b>	UL <b>6652126</b>	<b>52160</b>
110 V AC/DC	UL <b>6652130</b>	UL <b>6652136</b>	<b>52160</b>
230 V AC/DC	UL <b>6652140</b>	UL <b>6652146</b>	<b>52160</b>

Technical data	Input (coil)		
Input voltage/-current	24 V DC	19,2 ... 30 V DC / approx. 18 mA	
	24 V AC/DC	19,2 ... 30 V AC/DC / approx. 20 mA	min. 21,6 V AC/DC/approx. 6mA (max. 12 mA f. 1s)
	48 V DC	40 ... 53 V DC / approx. 14 mA	approx. 27 mA (max. 60 mA for 180 s)
	110 V AC/DC	95 ... 121 V AC/DC / approx. 7 mA	approx. 10 mA (max. 300 mA for 60 s)
	230 V AC/DC	195 ... 253 V AC/DC / approx. 5 mA	max. 253 V AC/DC/app. 6 mA (max. 900 mA f.15ms)

Status indicator	LED green		
Technical data	Output (contact)		
Max. switched voltage	250 V AC/DC	30 V AC/36 V DC <sup>1)</sup>	
Max. switched current	6 A (see table)	50 mA <sup>1)</sup>	
Min. load current	10 mA/12 V DC	1 mA/12 V DC	
Max. power rating (voltage dependent)	1500 VA/120 W		
Contact material	silver tin oxide	silver tin oxide, gold plated	
Energy/release/contact bounce time	10/15/1,5 ms		

General data	
Mech./elect. life	2 x 10 <sup>7</sup> /load dependent (for inductive loads we recommend interference suppression components connected parallel to the coil)
Max. switching frequency	10 Hz
Test insulation voltage	4 kV/AC; safe separation to EN 60947-1
Air and creepage distance	6/8 mm
Temperature range	-20 ... +55 °C
Mounting method	DIN-rail mounting to EN 50022
Dimension H x B x T	90 x 12,4 x 65 mm

Accessories	Dimension drawing	Load limit curve	De-rating curve	Switching capabilities to EN 60947																
Bridging link max. 2 A Art.-No. 90961				<table border="1"> <thead> <tr> <th></th> <th>AC 1</th> <th>AC 15</th> <th>DC 13</th> </tr> </thead> <tbody> <tr> <td>24 V</td> <td>6 A</td> <td>3 A</td> <td>1 A</td> </tr> <tr> <td>110 V</td> <td>6 A</td> <td>3 A</td> <td>0,2 A</td> </tr> <tr> <td>230 V</td> <td>6 A</td> <td>3 A</td> <td>0,1 A</td> </tr> </tbody> </table>		AC 1	AC 15	DC 13	24 V	6 A	3 A	1 A	110 V	6 A	3 A	0,2 A	230 V	6 A	3 A	0,1 A
					AC 1	AC 15	DC 13													
24 V					6 A	3 A	1 A													
110 V	6 A	3 A	0,2 A																	
230 V	6 A	3 A	0,1 A																	
Wire chain 16-pole Art.-No. 90977																				
Label plate Art.-No. 90901																				

Notes
For screw-type terminal connection, the item number changes from 6652... to 52... (i.e. the prefix 66 is dropped). <sup>1)</sup> When the listed values are exceeded the gold plating is destroyed. The relay will then take on the properties of an output type.



## MIRO

Murrelektronik  
Interface  
Terminal relays

With enhanced features

### MR 12,4 mm

Output relay  
2 relays/each 1 C/O contact

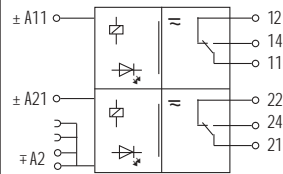


### MR 12,4 mm

Input relay  
2 relays/each 1 C/O contact

#### Circuit diagram

At connection voltages of 110 and 230 V, A2 does not feature potential sockets



Ordering data	Art.-No.	Art.-No.
Input voltage	spring clamp/screw terminals	spring clamp/screw terminals
24 V DC	6652100	6652115
24 V AC/DC	6652101	6652116
48 V DC	6652125	6652127
110 V AC/DC	6652135	6652137
230 V AC/DC	6652145	6652147

Technical data	Input (coil)
Input voltage/current	24 V DC 19,2 ... 30 V DC / approx. 8 mA
	24 V AC/DC 19,2 ... 30 V AC/DC / approx. 10 mA
	48 V DC 40 ... 53 V DC / approx. 10 mA
	110 V AC/DC 95 ... 121 V AC/DC / approx. 4 mA
	230 V AC/DC 195 ... 253 V AC/DC / approx. 3 mA

Status indicator LED green

Technical data	Output (contact)
Max. switched voltage	250 V AC/DC 30 V AC/36 V DC <sup>1)</sup>
Max. switched current	6 A (see table) 50 mA <sup>1)</sup>
Min. load current	10 mA/12 V DC 1 mA/12 V DC
Max. power rating (voltage dependent)	1500 VA/120 W
Contact material	silver tin oxide silver tin oxide, gold plated
Energize/release/contact bounce time	10/15/1,5 ms

General data	
Mech./elect. life	2 x 10 <sup>7</sup> /load dependent (for inductive loads we recommend interference suppression components connected parallel to the coil)
Max. switching frequency	10 Hz
Test insulation voltage	4 kV/AC; safe separation to EN 60947-1
Air and creepage distance	6/8 mm
Temperature range	-20 ... +55 °C
Mounting method	DIN-rail mounting to EN 50022
Dimension H x B x T	90 x 12,4 x 65 mm

Accessories	Dimension drawing	Load limit curve	De-rating curve	Switching capabilities to EN 60947																
Bridging link max. 2 A Art.-No. 90961				<table border="1"> <thead> <tr> <th></th> <th>AC 1</th> <th>AC 15</th> <th>DC 13</th> </tr> </thead> <tbody> <tr> <td>24 V</td> <td>6 A</td> <td>3 A</td> <td>1 A</td> </tr> <tr> <td>110 V</td> <td>6 A</td> <td>3 A</td> <td>0,2 A</td> </tr> <tr> <td>230 V</td> <td>6 A</td> <td>3 A</td> <td>0,1 A</td> </tr> </tbody> </table>		AC 1	AC 15	DC 13	24 V	6 A	3 A	1 A	110 V	6 A	3 A	0,2 A	230 V	6 A	3 A	0,1 A
					AC 1	AC 15	DC 13													
24 V					6 A	3 A	1 A													
110 V	6 A	3 A	0,2 A																	
230 V	6 A	3 A	0,1 A																	
Wire chain 16-pole Art.-No. 90977																				
Label plate Art.-No. 90901																				

**Notes**  
For screw-type terminal connection, the item number changes from 6652... to 52... (i.e. the prefix 66 is dropped). <sup>1)</sup> When the listed values are exceeded the gold plating is destroyed. The relay will then take on the properties of an output type.

## MIRO

Murrelektronik  
Interface  
Terminal relays

For use in building installations

### MR 12,4 mm

Input relay  
1 C/O contact  
for long cables



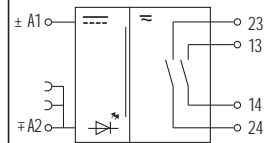
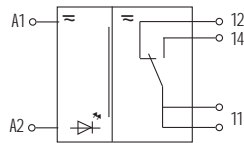
### MR 12,4 mm

Output relay  
1 C/O contact/for long cables  
for use in control cabinets in building installations

### MR 12,4 mm

Output relay  
2 N/O contact/with enhanced features  
for use in control cabinets in building installations

#### Circuit diagram



#### Ordering data

Input voltage	Art.-No.	Art.-No.	Art.-No.
24 V DC	spring clamp/screw terminals	spring clamp/screw terminals	spring clamp/screw terminals
24 V AC/DC			6652106
48 V DC			
110 V AC/DC			
230 V AC/DC	6652149	6652141	

#### Technical data

Input (coil)	Input voltage/-current
24 V DC	
24 V AC/DC	19,2 ... 30 V AC/DC / approx. 17 mA
48 V DC	
110 V AC/DC	
230 V AC/DC	195 ... 253 V AC/DC / approx. 3 mA (hold voltage $\geq$ 70 V/ hold current $\geq$ 0,3 mA)

Status indicator LED yellow | LED green

#### Technical data Output (contact)

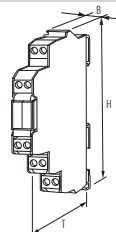
Max. switched voltage	250 V AC/DC
Max. switched current	6 A (see table)
Min. load current	1 mA/12 V DC   10 mA/12 V DC
Max. power rating (voltage dependent)	1500 VA/120 W
Contact material	silver tin oxide
Energize/release/contact bounce time	10/15/1,5 ms

#### General data

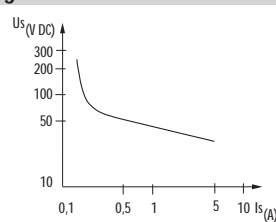
Mech./elect. life	2 x 10 <sup>7</sup> /load dependent (for inductive loads we recommend interference suppression components connected parallel to the coil)
Max. switching frequency	10 Hz
Test insulation voltage	4 kV/AC; safe separation to EN 60947-1
Air and creepage distance	6/8 mm
Temperature range	-20 ... +55 °C
Mounting method	DIN-rail mounting to EN 50022
Dimension H x B x T	90 x 12,4 x 65 mm

#### Accessories

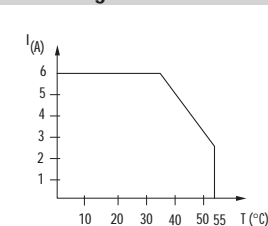
Bridging link max. 2 A	Art.-No. 90961
Wire chain 16-pole	Art.-No. 90977
Label plate	Art.-No. 90901



#### Dimension drawing



#### De-rating curve



#### Switching capabilities to EN 60947

	AC 1	AC 15	DC 13
24 V	6 A	3 A	1 A
110 V	6 A	3 A	0,2 A
230 V	6 A	3 A	0,1 A

#### Notes

For screw-type terminal connection, the item number changes from 6652... to 52... (i.e. the prefix 66 is dropped).

## MIRO

Murrelektronik  
Interface  
Terminal relays

With manual switch  
to VDI 3814

With enhanced features

### MR 12,4 mm

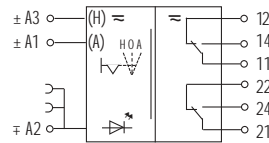
Output relay  
2 C/O contacts  
with protected H-O-A switch



### MR 12,4 mm

Input relay  
2 C/O contacts  
with protected H-O-A switch

#### Circuit diagram



#### Ordering data

Input voltage	Art.-No.	Art.-No.
24 V DC	spring clamp/screw terminals	spring clamp/screw terminals
24 V AC/DC	6652107	6652109
48 V DC		
110 V AC/DC		
230 V AC/DC		

#### Technical data Input (coil)

Input voltage/-current	24 V DC	
	24 V AC/DC	19,2 ... 28 V AC/DC / approx. 20 mA
	48 V DC	
	110 V AC/DC	
	230 V AC/DC	

Status indicator

LED green

#### Technical data Output (contact)

Max. switched voltage	250 V AC/DC	30 V AC/36 V DC <sup>1)</sup>
Max. switched current	6 A (see table)	50 mA <sup>1)</sup>
Min. load current	10 mA/12 V DC	1 mA/12 V DC
Max. power rating (voltage dependent)	1500 VA/120 W	
Contact material	silver tin oxide	silver tin oxide, gold plated
Energize/release/contact bounce time	10/15/1,5 ms	

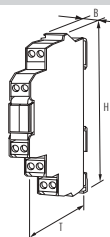
#### General data

Mech./elect. life	2 x 10 <sup>7</sup> /load dependent (for inductive loads we recommend interference suppression components connected parallel to the coil)	
Max. switching frequency	10 Hz	
Test insulation voltage	4 kV/AC; safe separation to EN 60947-1	
Air and creepage distance	6/8 mm	
Temperature range	-20 ... +55 °C	
Mounting method	DIN-rail mounting to EN 50022	
Dimension H x B x T	90 x 12,4 x 65 mm	

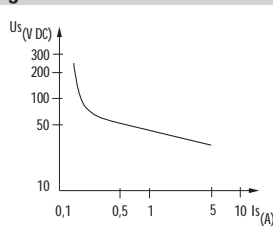
#### Accessories

Bridging link max. 2 A	Art.-No. 90961
Wire chain 16-pole	Art.-No. 90977
Label plate	Art.-No. 90901

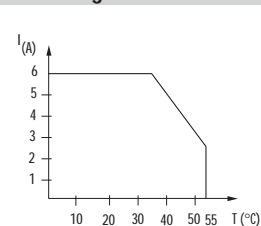
#### Dimension drawing



#### Load limit curve



#### De-rating curve



#### Switching capabilities to EN 60947

	AC 1	AC 15	DC 13
24 V	6 A	3 A	1 A
110 V	6 A	3 A	0,2 A
230 V	6 A	3 A	0,1 A

#### Notes

For screw-type terminal connection, the item number changes from 6652... to 52... (i.e. the prefix 66 is dropped). <sup>1)</sup> When the listed values are exceeded the gold plating is destroyed. The relay will then take on the properties of an output type.

## MIRO

Murrelektronik  
Interface  
Terminal relays

With enhanced features

### MR 12,4 mm

Output relay  
1 C/O contact  
with protected H-O-A switch and CTL contact



### MR 12,4 mm

Output relay  
1 C/O contact  
with H-O-A switch and CTL contact

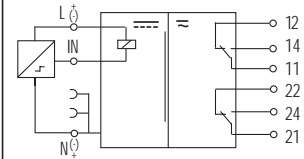
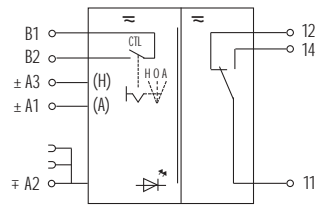


### MR 12,4 mm

Input relay  
2 C/O contacts  
for 3-wire NPN sensors



### Circuit diagram



### Ordering data

	Art.-No.	Art.-No.	Art.-No.
Input voltage	spring clamp/screw terminals	screw terminals	spring clamp/screw terminals
24 V DC			
24 V AC/DC	<b>6652150</b>	<b>526027</b>	<sup>1)</sup> <b>6652108</b>
48 V DC			
110 V AC/DC			
230 V AC/DC			

### Technical data

	Input (coil)		
Input voltage/-current	24 V DC		
	24 V AC/DC	19,2 ... 28 V AC/DC / approx. 17 mA	19,2 ... 30 V AC/DC / approx. 20 mA
	48 V DC		
	110 V AC/DC		
	230 V AC/DC		

Status indicator LED green

### Technical data Output (contact)

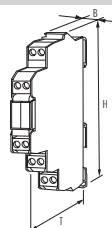
Max. switched voltage/min. switched voltage	250 V AC/DC / 12 V DC	30 V AC/36 V DC / 12 V DC <sup>2)</sup>
Max. switched current/min. load current	6 A (see table) / 10 mA	50 mA / 1 mA <sup>2)</sup>
CTL contact	100 mA/28 V AC/DC	–
Max. power rating (voltage dependent)	1500 VA/120 W	
Contact material	silver tin oxide	silver tin oxide, gold plated
Energize/release/contact bounce time	10/15/1,5 ms	

### General data

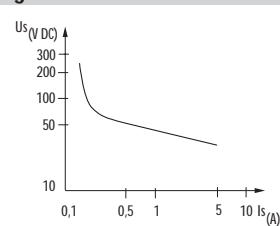
Mech./elect. life	2 x 10 <sup>7</sup> /load dependent (for inductive loads we recommend interference suppression components connected parallel to the coil)
Max. switching frequency	10 Hz
Test insulation voltage	4 kV/AC; safe separation to EN 60947-1
Air and creepage distance	6/8 mm
Temperature range	-20 ... +55 °C
Mounting method	DIN-rail mounting to EN 50022
Dimension H x B x T	90 x 12,4 x 65 mm

### Accessories

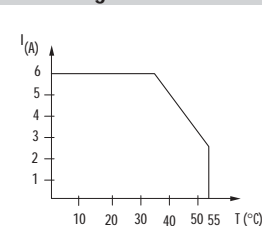
Bridging link max. 2 A	Art.-No. 90961
Wire chain 16-pole	Art.-No. 90977
Label plate	Art.-No. 90901



### Load limit curve



### De-rating curve



### Switching capabilities to EN 60947

	AC 1	AC 15	DC 13
24 V	6 A	3 A	1 A
110 V	6 A	3 A	0,2 A
230 V	6 A	3 A	0,1 A

### Notes

For screw-type terminal connection, the item number changes from 6652... to 52... (i.e. the prefix 66 is dropped). <sup>1)</sup> Suitable for NPN and PNP sensors.  
<sup>2)</sup> When the listed values are exceeded the gold plating is destroyed. The relay will then take on the properties of an output type

## MIRO

Murrelektronik  
Interface  
Terminal relays

With enhanced features

### MR 12,4 mm

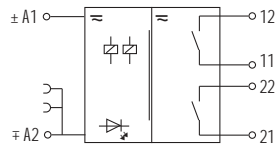
Output relay  
2 N/O contacts



### MR 12,4 mm

Input relay  
2 N/O contacts

#### Circuit diagram



Ordering data	Art.-No.	Art.-No.
Input voltage	spring clamp/screw terminals	spring clamp/screw terminals
24 V DC		
24 V AC/DC	6652104	6652112
48 V DC		
110 V AC/DC		
230 V AC/DC		

Technical data	Input (coil)
Input voltage/-current	24 V DC
	24 V AC/DC
	19,2 ... 30 V AC/DC / approx. 17 mA
	48 V DC
	110 V AC/DC
	230 V AC/DC

Status indicator LED green

Technical data	Output (contact)
Max. switched voltage	250 V AC/DC
	30 V AC/36 V DC <sup>1)</sup>
Max. switched current	6 A (see table)
	50 mA <sup>1)</sup>
Min. load current	10 mA/12 V DC
	1 mA/120 V DC
Max. power rating (voltage dependent)	1500 VA/120 W
Contact material	silver tin oxide
	silver tin oxide, gold plated
Energize/release/contact bounce time	10/15/1,5 ms

General data	
Mech./elect. life	2 x 10 <sup>7</sup> /load dependent (for inductive loads we recommend interference suppression components connected parallel to the coil)
Max. switching frequency	10 Hz
Test insulation voltage	4 kV/AC; safe separation to EN 60947-1
Air and creepage distance	6/8 mm
Temperature range	-20 ... +55 °C
Mounting method	DIN-rail mounting to EN 50022
Dimension H x B x T	90 x 12,4 x 65 mm

Accessories	Dimension drawing	Load limit curve	De-rating curve	Switching capabilities to EN 60947																
Bridging link max. 2 A	Art.-No. 90961			<table border="1"> <thead> <tr> <th></th> <th>AC 1</th> <th>AC 15</th> <th>DC 13</th> </tr> </thead> <tbody> <tr> <td>24 V</td> <td>6 A</td> <td>3 A</td> <td>1 A</td> </tr> <tr> <td>110 V</td> <td>6 A</td> <td>3 A</td> <td>0,2 A</td> </tr> <tr> <td>230 V</td> <td>6 A</td> <td>3 A</td> <td>0,1 A</td> </tr> </tbody> </table>		AC 1	AC 15	DC 13	24 V	6 A	3 A	1 A	110 V	6 A	3 A	0,2 A	230 V	6 A	3 A	0,1 A
	AC 1				AC 15	DC 13														
24 V	6 A				3 A	1 A														
110 V	6 A	3 A	0,2 A																	
230 V	6 A	3 A	0,1 A																	
Wire chain 16-pole	Art.-No. 90977																			
Label plate	Art.-No. 90901																			

**Notes**  
For screw-type terminal connection, the item number changes from 6652... to 52... (i.e. the prefix 66 is dropped). <sup>1)</sup> When the listed values are exceeded the gold plating is destroyed. The relay will then take on the properties of an output type.

## Mini relay modules

### RMM

Output relay  
with minus plug-in jumper

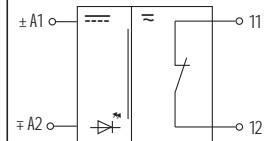
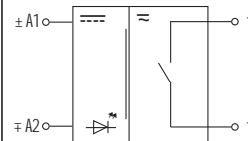
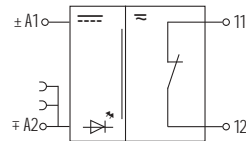
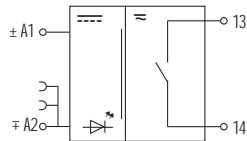


### RMM

Output relay  
without minus plug-in jumper



### Circuit diagram



### Ordering data

	Art.-No.	Art.-No.	Art.-No.	Art.-No.
Input voltage	1 relay; 1 N/O contact	1 relay; 1 N/C contact	1 relay; 1 N/O contact	1 relay; 1 N/C contact
24 V DC	<b>51851</b>	<b>51808</b>	<b>51551</b>	<b>51508</b>
48 V DC	<b>51850</b>		<b>51550</b>	<b>51564</b>
110 V AC			<b>51552</b>	<b>51563</b>
230 V AC			<b>51515</b>	<b>51562</b>

### Technical data Input (coil)

Input voltage/-current	24 V DC $\pm 10\%$ / 30 mA (24 V AC -5%, +10% at $\vartheta_{U_{max}} \leq 40^\circ\text{C}$ )
	48 V DC $\pm 10\%$ / 20 mA (48 V AC -5%, +10% at $\vartheta_{U_{max}} \leq 40^\circ\text{C}$ )
	110 V AC +10% -15% / 7 mA
	230 V AC +10% -15% / 7 mA

Plug-in jumper Art.-No. 90960 (included with relay) —

Status indicator LED red

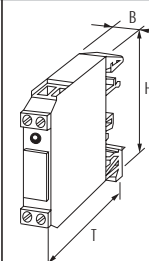
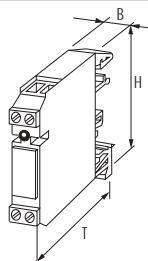
### Technical data Output (contact)

Max. switched voltage	250 V AC / 300 V DC
Max. switched current	5 A
Min. load current	100 mA
Max. power rating (voltage dependent)	1250 VA / 240 W
Contact material	Ag Ni 0,15 hv; Ag hv
Energize/release/contact bounce time	10/15/1,5 ms

### General data

Mech./elect. life	$2 \times 10^7$ / load dependent
Max. switching frequency	10 Hz
Test insulation voltage	4 kV/AC
Temperature range	-20...+50 °C
Mounting method	DIN-rail mounting to EN 50022 or EN 50035
Dimension H x B x T	56 x 12 x 64 mm

### Dimension drawing



### Notes

Accessories can be found in chapter 3.16

## Mini relay modules

With green LED

### RMM

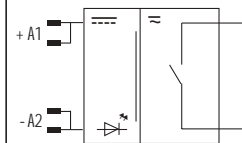
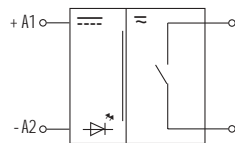
Output relay



### RMM

Output relay

#### Circuit diagram



#### Ordering data

#### Art.-No.

#### Art.-No.

Input voltage

1 relay; 1 N/O contact

1 relay; 1 N/O contact

24 V DC

512764

512774

48 V DC

110 V AC

230 V AC

#### Technical data Input (coil)

Input voltage/-current

24 V DC  $\pm$  10 %/20 mA

24 V DC  $\pm$  10 %/20 mA

Status indicator

LED green

LED green

Connection

screw terminals

coil connection: Faston 2 x 2,8 x 0,8 mm

#### Technical data Output (contact)

Max. switched voltage

250 V AC/300 V DC

Max. switched current

5 A

Min. load current

100 mA

Max. power rating (voltage dependent)

1250 VA/240 W

Contact material

Ag Ni 0,15 hv; Ag hv

Energize/release/contact bounce time

10/15/1,5 ms

Connection

screw terminals

#### General data

Mech./elect. life

2 x 10<sup>7</sup>/load dependent

Max. switching frequency

10 Hz

Test insulation voltage

4,0 kV AC

Temperature range

-20...+50 °C

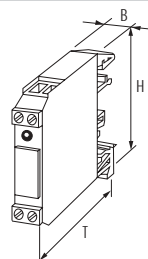
Mounting method

DIN-rail mounting to EN 50022 or EN 50035

Dimension H x B x T

56 x 12 x 64 mm

#### Dimension drawing



#### Notes

Accessories can be found in chapter 3.16

VW Id.No.: 1 232252 (512764) and 1 598191 (512774)

## Mini relay modules

### RMME

Input relay  
with minus plug-in jumper

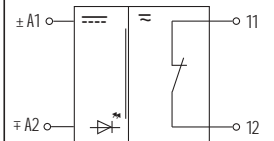
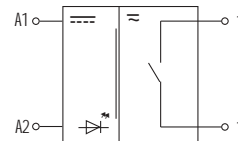
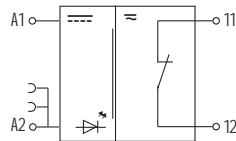
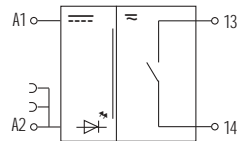


### RMME

Input relay  
without minus plug-in jumper



### Circuit diagram



### Ordering data

	Art.-No.	Art.-No.	Art.-No.	Art.-No.
Input voltage	1 relay; 1 N/O contact	1 relay; 1 N/C contact	1 relay; 1 N/O contact	1 relay; 1 N/C contact
24 V AC/DC	<b>51860</b>	<b>51871</b>	<b>51560</b>	<b>51571</b>
48 V AC/DC	<b>51853</b>		<b>51553</b>	
110 V AC			<b>51526</b>	
230 V AC			<b>51517</b>	<b>51572</b>

### Technical data Input (coil)

Input voltage/-current	24 V AC/DC ± 10 %/7 mA
	48 V AC/DC ± 10 %/7 mA
	110 V AC + 10 % - 15 %/7 mA
	230 V AC + 10 % - 15 %/7 mA

Plug-in jumper Art.-No. 90960 (included with relay) —

Status indicator LED yellow

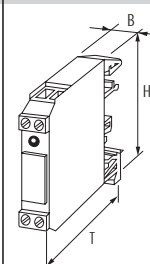
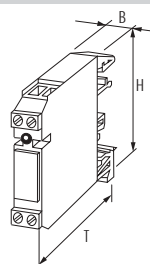
### Technical data Output (contact)

Max. switched voltage	125 V AC/150 V DC
Max. switched current	1 A
Min. load current	1 mA
Max. power rating (voltage dependent)	60 VA/30 W
Contact material	Pd Ni-Au Rh
Energize/release/contact bounce time	10/10/1 ms

### General data

Mech./elect. life	1 x 10 <sup>8</sup> /load dependent
Max. switching frequency	15 Hz
Test insulation voltage	1,5 kV AC
Temperature range	-20...+60 °C
Mounting method	DIN-rail mounting to EN 50022 or EN 50035
Dimension H x B x T	56 x 12 x 64 mm

### Dimension drawing



### Notes

Accessories can be found in chapter 3.16



## RMMD Relay modules

### With minus plug-in jumper

#### RMMD

Output relay with minus plug-in jumper



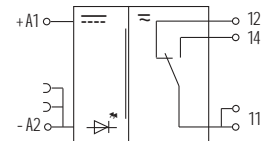
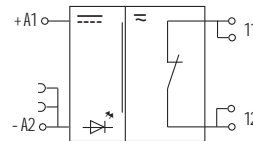
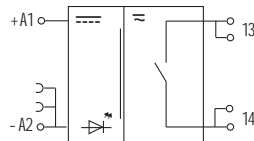
#### RMMD

Output relay with minus plug-in jumper

#### RMMD

Output relay with minus plug-in jumper

#### Circuit diagram



#### Ordering data

Input voltage	Art.-No.	Art.-No.	Art.-No.
24 V DC	<sup>1)</sup> 51100	<sup>1)</sup> 51110	<sup>1)</sup> 51120
48 V AC/DC			
110 V AC			
230 V AC	51108		

#### Technical data Input (coil)

Input voltage/current	24 V DC $\pm$ 10 %/20 mA
	230 V AC + 10 % - 15 %/10 mA ( without plug-in jumper)
Plug-in jumper	Art.-No. 90960 (included with relay) plug-in jumper not possible with 230 V version
Status indicator	LED red

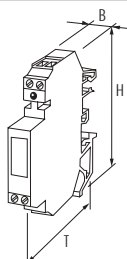
#### Technical data Output (contact)

Max. switched voltage	250 V AC/DC
Max. switched current	8 A (6 A at 230 V-Type)
Min. load current	100 mA
Max. power rating (voltage dependent)	2000 VA/240 W
Contact material	Ag Ni 0,15 hv; Ag hv
Energize/release/contact bounce time	10/15/2 ms

#### General data

Mech./elect. life	$2 \times 10^7$ /load dependent
Max. switching frequency	10 Hz
Test insulation voltage	5 kV AC; at Art.-No. 51108: 4,0 kV AC
Temperature range	-20...+50 °C
Mounting method	DIN-rail mounting to EN 50022 or EN 50035
Dimension H x B x T	82 x 12 x 68 mm

#### Dimension drawing



#### Notes

Accessories can be found in chapter 3.16  
<sup>1)</sup> Units with safe separation to VDE 0106, part 101/VDE 0160

## RMMD Relay modules

With minus plug-in jumper

### RMMD

Output relay  
with low connection current



### RMMDE

Input relay  
with enhanced features

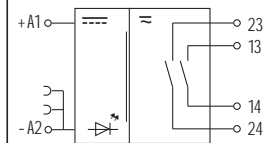
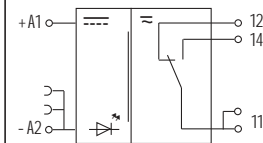
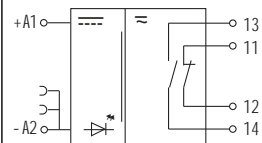
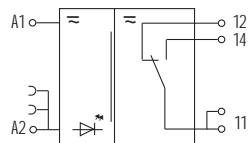
### RMMDE

Input relay  
with enhanced features

### RMMDE

Input relay  
with enhanced features

### Circuit diagram



### Ordering data

	Art.-No.	Art.-No.	Art.-No.	Art.-No.
Input voltage	1 relay; 1 C/O contact	1 relay; 1 N/O contact/1 N/C contact	1 relay; 1 C/O contact	1 relay; 2 N/O contacts
24 V AC/DC	<sup>1)</sup> 51125			
24 V DC		516014	51130	51140
110 V AC				
230 V AC			51138	

### Technical data Input (coil)

Input voltage/-current	24 V AC/DC ± 10 %/max. 10 mA	24 V DC ± 10 %/max. 20 mA	24 V DC ± 10 %/max. 15 mA	24 V DC ± 10 %/max. 15 mA
		230 V AC + 10 % - 15 %/10 mA		

Plug-in jumper Art.-No. 90960 (included with relay) plug-in jumper not possible with 230 V version

Status indicator LED red LED yellow

### Technical data Output (contact)

Max. switched voltage	250 V AC/DC	250 V AC/DC	125 V AC/150 V DC	250 V AC/DC
Max. switched current	8 A	3 A	1 A	2 A
Min. load current	100 mA	1 mA	1 mA	5 mA
Max. power rating (voltage dependent)	2000 VA/240 W	90 W/VA	60 VA/30 W	250 VA/150 W
Contact material	Ag Ni 0,15 hv; Ag hv	Ag-htv	Pd Ni-Au Rh	Ag Au-Pd Ag
Energize/release/contact bounce time	10/15/2 ms	6/3/2 ms	10/10/1 ms	10/10/1 ms

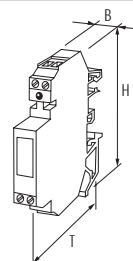
### General data

Mech./elect. life	2 x 10 <sup>7</sup> /load dependent	2 x 10 <sup>7</sup> /load dependent	1 x 10 <sup>8</sup> /load dependent	2 x 10 <sup>7</sup> /load dependent
Max. switching frequency	10 Hz	10 Hz	15 Hz	15 Hz
Test insulation voltage	5 kV AC	1,5 kV AC	1,5 kV AC	1 kV AC
Temperature range	-20...+50 °C	-20...+60 °C	-20...+60 °C	-20...+50 °C

Mounting method DIN-rail mounting to EN 50022 or EN 50035

Dimension H x B x T 82 x 12 x 68 mm

### Dimension drawing



### Notes

Accessories can be found in chapter 3.16  
<sup>1)</sup> Units with safe separation to VDE 0106, part 101/VDE 0160

## RMMD Relay modules

### With HAND-O-AUTO

For use in  
Building Management Systems

### RMMDH

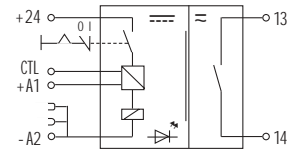
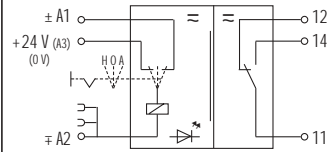
Output relay with negative plug-in and  
toggle switch for HAND-O-AUTO control



### RMMDH

Output relay with negative plug-in and  
toggle switch for HAND-O-AUTO control  
has auxiliary alarm contact when in "HAND" position

#### Circuit diagram



Ordering data	Art.-No.	Art.-No.	Art.-No.
Input voltage	1 relay; 1 C/O contact	1 relay; 1 C/O contact	1 relay; 1 N/O contact
24 V DC			51150
24 V AC/DC	51152	<sup>1)</sup> 516061	
110 V AC			
230 V AC			
Technical data Input (coil)			
Input voltage/-current			24 V DC ± 10 %/8 mA
	24 V AC/DC ± 10 %/20 mA		
Plug-in jumper	Art.-No. 90960 (included with relay)		
Status indicator	LED red		
Technical data Output (contact)			
Max. switched voltage	250 V AC/DC		250 V AC/DC
Max. switched current	8 A		5 A
Min. load current	100 mA		10 mA
Max. power rating (voltage dependent)	2000 VA/240 W		750 VA/75 W
Contact material relay (switch)	Ag Ni 0,15 hv		Ag Ni 0,15 hv
Energize/release/contact bounce time	10/10/2 ms		10/10/2 ms
General data			
Mech./elect. life	3 x 10 <sup>7</sup> /load dependent		2 x 10 <sup>7</sup> /load dependent
Max. switching frequency	15 Hz		10 Hz
Test insulation voltage	3 kV AC		3 kV AC
Temperature range	-20...+50 °C		-20...+50 °C
Mounting method	DIN-rail mounting to EN 50022 or EN 50035		DIN-rail mounting to EN 50022 or EN 50035
Dimension H x B x T	82 x 12 x 82 mm		82 x 12 x 82 mm
Dimension drawing/description			
			<p>This relay enables the load to be controlled by a PLC with the added facility to manually switch the load on or off using the toggle switch.</p>
Notes	<p><sup>1)</sup> with Art.-No. 516061 the toggle switch must be held in the HAND position. Accessories can be found in chapter 3.16</p>		

## RMMD Relay modules

### With HAND-O-AUTO

#### RMMDH

Output relay with negative plug-in and toggle switch for HAND-O-AUTO control has auxiliary alarm contact when in "HAND" position



#### RMMDH

Output relay with negative plug-in jumper and toggle switch to bridge working contact.

Circuit diagram		
Ordering data	Art.-No.	Art.-No.
Input voltage	1 relay; 1 N/O contact	1 relay; 1 N/O contact
24 V DC	<b>51153</b>	<b>51101</b>
48 V DC		
110 V AC		
230 V AC		
Technical data	Input (coil)	
Input voltage/-current	24 V DC $\pm$ 10 %/20 mA	24 V DC $\pm$ 10 %/10 mA
Plug-in jumper	Art.-No. 90960 (included with relay)	
Status indicator	LED red	
Technical data	Output (contact)	
Max. switched voltage	250 V AC/DC; CTL-alarm signal 24 V DC	250 V AC/30 V DC
Max. switched current	8 A; CTL-alarm signal 10 mA	6 A
Min. load current	100 mA	100 mA
Max. power rating (voltage dependent)	2000 VA/240 W	750 VA/90 W
Contact material relay (switch)	Ag Ni 0,15 hv	Ag Cd O (Ag)
Energize/release/contact bounce time	10/10/2 ms	10/10/2 ms
General data		
Mech./elect. life	$3 \times 10^7$ /load dependent	$3 \times 10^7$ /load dependent
Max. switching frequency	15 Hz	15 Hz
Test insulation voltage	1,5 kV AC	3 kV AC
Temperature range	-20...+50 °C	-20...+50 °C
Mounting method	DIN-rail mounting to EN 50022 or EN 50035	DIN-rail mounting to EN 50022 or EN 50035
Dimension H x B x T	82 x 12 x 82 mm	82 x 12 x 82 mm
Dimension drawing		<p>This relay enables the load to be controlled by a PLC with the added facility to manually switch the load on or off using the toggle switch. Art.-No. 51101 differs in that the relay contact is bridged by the hand operated switch.</p>
Notes	Accessories can be found in chapter 3.16	

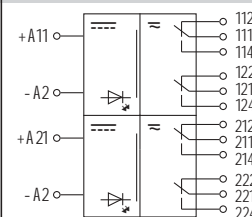
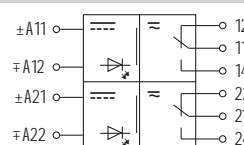
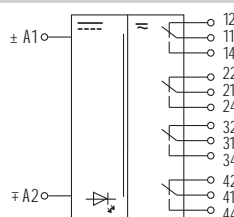
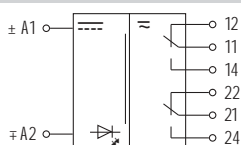
## MCVO Relay modules

### RM

Output relay



#### Circuit diagram



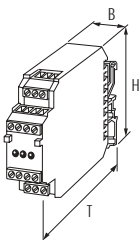
Terminal layout different for Art.-No. 510676

Ordering data	Art.-No.	Art.-No.	Art.-No.	Art.-No.
Input voltage	1 relay; 2 C/O contacts	1 relay; 4 C/O contacts	2 relays; each 1 C/O contact	2 relays; each 2 C/O contacts
24 V DC	<b>51540</b>	<b>51410</b>	<b>51485</b>	<b>51465</b>
48 V DC		<b>51441</b>		
110 V AC		<b>51442</b>	<b>51406</b>	
230 V AC		<b>51413</b>	<b>51412</b>	<b>510676</b>

Technical data	Input (coil)			
Input voltage/-current	24 V DC $\pm 10\%$ / 35 mA		24 V DC $\pm 10\%$ / 30 mA	24 V DC $\pm 10\%$ / 30 mA
	48 V DC $\pm 10\%$ / 20 mA			
	110 V AC $+10\%$ - 15% / 15 mA		110 V AC $+10\%$ - 15% / 10 mA	
	230 V AC $+10\%$ - 15% / 15 mA		230 V AC $+10\%$ - 15% / 10 mA	230 V AC $+10\%$ - 15% / 20 mA
Status indicator	LED red			

Technical data	Output (coil)			
Max. switched voltage	250 V AC/DC	250 V AC/DC	250 V AC/300 V DC	250 V AC/DC
Max. switched current	5 A	2 A	5 A	4 A
Min. load current	100 mA	100 mA	100 mA	100 mA
Max. power rating (voltage dependent)	1250 VA/120 W	100 VA/75 W	1250 VA/240 W	1000 VA/100 W
Contact material	Ag Ni 0,15	Ag hv	Ag Ni 0,15 hv; Ag hv	Ag Ni 0,15
Energize/release/contact bounce time	10/10/2 ms	10/20/2 ms	10/10/2 ms	10/10/2 ms
<b>General data</b>				
Mech./elect. life	$5 \times 10^7$ / load dependent	$5 \times 10^7$ / load dependent	$2 \times 10^7$ / load dependent	
Max. switching frequency	10 Hz	10 Hz	10 Hz	
Test insulation voltage	4 kV AC	1,0 kV AC	1,5 kV AC	
Temperature range	-20...+50 °C			
Mounting method	DIN-rail mounting to EN 50022 or EN 50035			
Dimensions H x B x T	75 x 22,5 x 102 mm			

#### Dimension drawing



#### Notes

Accessories can be found in chapter 3.16

## MCVO Relay modules

### RM

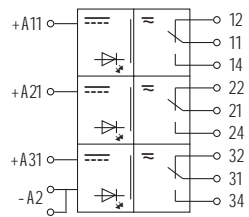
Output relay



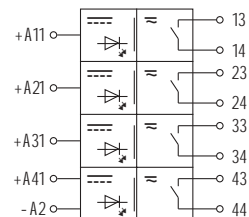
### RM

Output relay

#### Circuit diagram



Common minus potential for all inputs = - A2



Common minus potential for all inputs = - A2

#### Ordering data

Input voltage	3 relay; each 1 C/O contact	Art.-No.	4 relay; each 1 N/O contact	Art.-No.
24 V DC		51403		512498
48 V DC		51495		
110 V AC				
230 V AC				

#### Technical data Input (coil)

Input voltage/-current	24 V DC $\pm$ 10 %/20 mA
	48 V DC $\pm$ 10 %/10 mA
Status indicator	LED red

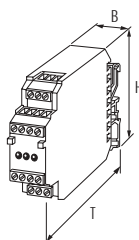
#### Technical data Output (coil)

Max. switched voltage	250 V AC/300 V DC
Max. switched current	5 A
Min. load current	100 mA
Max. power rating (voltage dependent)	1250 VA/240 W
Contact material	Ag Ni 0,15 hv; Ag hv
Energize/release/contact bounce time	10/10/2 ms

#### General data

Mech./elect. life	2 x 10 <sup>7</sup> /load dependent	5 x 10 <sup>7</sup> /load dependent
Max. switching frequency	10 Hz	
Test insulation voltage	1,5 kV AC	
Temperature range	-20...+50 °C	
Mounting method	DIN-rail mounting to EN 50022 or EN 50035	
Dimensions H x B x T	75 x 22,5 x 102 mm	

#### Dimension drawing



#### Notes

Accessories can be found in chapter 3.16

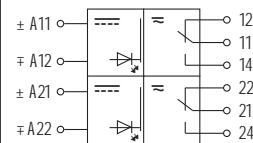
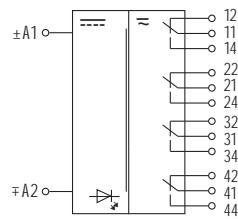
## MCVO Relay modules

**RME**  
Input relay



**RME**  
Input relay

### Circuit diagram



Ordering data	Art.-No.	Art.-No.
---------------	----------	----------

Input voltage	1 relay; 4 C/O contacts	2 relays; each 1 C/O contact
24 V DC	<b>516001</b>	<b>51404</b>
48 V DC		
110 V AC		
230 V AC		<b>51402</b>

Technical data	Input (coil)	
----------------	--------------	--

Input voltage/-current	24 V DC $\pm 10\%$ / 20 mA	24 V DC $\pm 10\%$ / 20 mA
		230 V AC $+10\% - 15\%$ / 8,5 mA
Status indicator	LED yellow	LED yellow

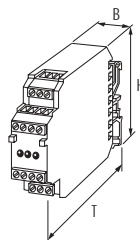
Technical data	Output (coil)	
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Max. switched voltage	250 V AC/DC	250 V AC/DC
Max. switched current	2 A	1 A
Min. load current	1 mA	1 mA
Max. power rating (voltage dependent)	125 VA/60 W	60 VA/30 W
Contact material	Ag hv	Pd Ni-Au Rh
Energize/release/contact bounce time	10/10/1 ms	10/10/1 ms

General data	
--------------	--

Mech./elect. life	1 x 10 <sup>6</sup> / load dependent
Max. switching frequency	15 Hz
Test insulation voltage	1,5 kV AC
Temperature range	-20 ... +50 °C
Mounting method	DIN-rail mounting to EN 50022 or EN 50035
Dimensions H x B x T	75 x 22,5 x 102 mm

Dimension drawing	
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Notes	
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Accessories can be found in chapter 3.16

## MCVO Relay modules

With positive displacement contact

### RM

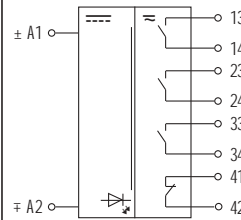
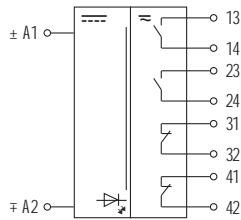
Output relay with positive displacement contact



### RM

Output relay with positive displacement contact

#### Circuit diagram



#### Ordering data

Input voltage	Art.-No.	Art.-No.
24 V DC	51300	51301
48 V DC		
110 V AC		
230 V AC		

#### Technical data Input (coil)

Input voltage/-current	24 V DC $\pm$ 10 %/50 mA
Status indicator	LED red

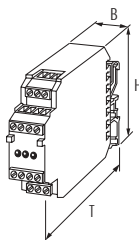
#### Technical data Output (coil)

Max. switched voltage	250 V AC/80 V DC
Max. switched current	4 A
Min. load current	100 mA
Max. power rating (voltage dependent)	1000 VA/50 W
Contact material	Ag hv; Ag Sn O <sub>2</sub>
Energize/release/contact bounce time	15/15/2 ms

#### General data

Mech./elect. life	1 x 10 <sup>6</sup> /load dependent
Max. switching frequency	1 Hz
Test insulation voltage	2,5 kV AC
Temperature range	-20...+50 °C
Mounting method	DIN-rail mounting to EN 50022 or EN 50035
Dimensions H x B x T	75 x 22,5 x 102 mm

#### Dimension drawing



#### Notes

Accessories can be found in chapter 3.16



MIRO Timer module  
Pulse extension module  
Solid state relay  
Switch on delay function  
Multifunction with multi-voltage input

**MIB 6,2 mm**  
Transistor output  
Pulse extension with enhanced features

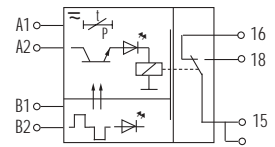
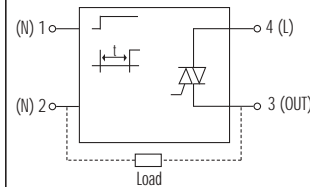
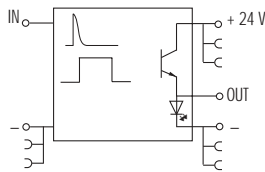


**MR 6,2 mm**  
Triac output  
Switch on delay function

**MR 12,4 mm**  
Timer Multifunction  
C/O contact



## Circuit diagram



Ordering data	Art.-No.	Art.-No.	Art.-No.																					
Input voltage	time ranges	spring clamp/screw terminals	spring clamp/screw terminals																					
24 V DC	0,1 ... 10 s	UL + CSA	6652320																					
24 V AC/DC/230 V AC	0,1 ... 300 s		6652370																					
230 V AC	0,5 s		6652558																					
Technical data	Input (coil)																							
Input voltage	19 ... 29 V DC		A1/A2: 24 V AC/DC ±15 % / 230 V AC ±15 %																					
Control voltage	16 ... 32 V DC	207 ... 253 V AC	B1/B2: 20,4 ... 264,5 V AC/DC																					
Technical data	Output (coil)																							
Switching element	transistor	triac	relay																					
Switching voltage	supply voltage – 1,5 V	control voltage – 1,2 V	max. 250 V AC/DC																					
Max. switched current/min. load current	100 mA/ 0 mA	1 A at 40 °C; 0,8 A at 55 °C/100 mA	6 A (see table)/10 mA																					
Max. power rating (voltage dependent)	2,8 W	253 VA	1500 VA/120 W																					
Contact material	–	–	silver tin oxide																					
Energize/release/contact bounce time	–	–	10/15/1,5 ms																					
General data																								
Mech./elect. life	2 x 10 <sup>7</sup> /load dependent																							
Max. switching frequency	–		10 Hz																					
Test insulation voltage	no galvanic separation	2 kV/AC	4 kV/AC; safe sep. to VDE 0106/VDE 0160																					
Temperature range	0 ... +60 °C	-20 ... +60 °C																						
Mounting method	DIN-rail mounting to EN 50022																							
Dimensions H x B x T	90 x 6,2 x 65 mm	78 x 6,2 x 65 mm	90 x 12,4 x 65 mm																					
Function diagram																								
	<p>Input impulse ≥ 0,5 ms 0,1 ... 10 s frontal trim-pot adjustable</p>	<p>t = 0,5 s</p>	<p>time<sup>1)</sup> t</p> <p>0,1... 1,2 s out: +A1 function</p> <p>0,4... 5 s out: +A1 function</p> <p>3,5... 40 s out: +A1 function</p> <p>30... 300 s last: +A1 function</p> <p>last: +A1 function</p>																					
Accessories	Dimension drawing	Load limit curve	De-rating curve	Switching capabilities																				
Label plate	Art.-No. 90901	<p>Art.-No. 6652370</p>	<p>Art.-No. 6652370</p>	<table border="1"> <thead> <tr> <th colspan="4">Art.-No. 6652370</th> </tr> <tr> <th></th> <th>AC 1</th> <th>AC 15</th> <th>DC 13</th> </tr> </thead> <tbody> <tr> <td>24 V</td> <td>6 A</td> <td>3 A</td> <td>1 A</td> </tr> <tr> <td>110 V</td> <td>6 A</td> <td>3 A</td> <td>0,2 A</td> </tr> <tr> <td>230 V</td> <td>6 A</td> <td>3 A</td> <td>0,1 A</td> </tr> </tbody> </table>	Art.-No. 6652370					AC 1	AC 15	DC 13	24 V	6 A	3 A	1 A	110 V	6 A	3 A	0,2 A	230 V	6 A	3 A	0,1 A
Art.-No. 6652370																								
	AC 1	AC 15	DC 13																					
24 V	6 A	3 A	1 A																					
110 V	6 A	3 A	0,2 A																					
230 V	6 A	3 A	0,1 A																					
Wire chain 16-pole	Art.-No. 90977																							
Bridging link max. 2 A	Art.-No. 90961																							
Bridging comb 10-pole, red	Art. No. 90976																							
End caps, 2 pieces, red	Art.-No. 90982																							
Bridging comb 10-pole, blue	Art.-No. 90975																							
End caps, 2 pieces, blue	Art.-No. 90980																							

## Notes

For screw-type terminal connection, the item number changes from 6652... to 52... (i.e. the prefix 66 is dropped).  
Time adjustable upon frontal trim-pot, function adjustable upon 5-pole DIP-switch under removable label plate.

## MIRO Timer modules

### Terminal relays with timer function

### With enhanced features

#### MR 6,2 mm

Timer  
1 C/O contact  
switch on delay function



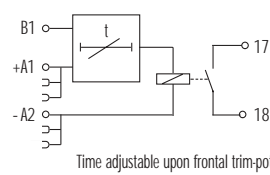
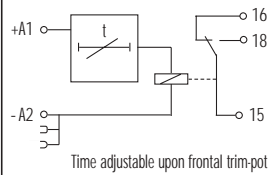
#### MR 6,2 mm

Timer  
1 N/O contact  
switch off delay function

#### MR 6,2 mm

Timer  
1 N/O contact  
multifunction

### Circuit diagram



Ordering data	Art.-No.	Art.-No.	Art.-No.
Time ranges	spring clamp/screw terminals	spring clamp/screw terminals	spring clamp/screw terminals
0,1 ... 10 s	UL + CSA <b>6652300</b>	UL + CSA <b>6652310</b>	
0,1 ... 300 s			UL + CSA <b>6652350</b>
3 ... 300 s	UL + CSA <b>6652301</b>	UL + CSA <b>6652311</b>	

### Technical data Input (coil)

Input voltage/-current	A	24 V DC/ +10 ... -15 %/20 mA
Control voltage/-current	B	24 V DC/ +10 ... -15 %/ 5 mA

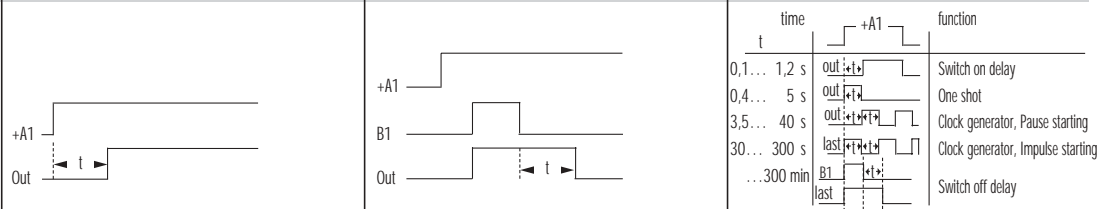
### Technical data Output (coil)

Switching element	relay
Max. switched voltage/min. switched voltage	250 V AC/DC / 12 V DC
Max. switched current/min. load current	6 A (see table)/10 mA
Max. power rating (voltage dependent)	1500 VA/120 W
Contact material	silver tin oxide
Energize/release/contact bounce time	10/15/1,5 ms

### General data

Mech./elect. life	$2 \times 10^7$ /load dependent (for inductive loads we recommend interference suppression components connected parallel to the coil)
Max. switching frequency	10 Hz
Test insulation voltage	4 kV/AC; safe sep. to EN 60947-1
Temperature range	0 ... +55 °C
Mounting method	DIN-rail mounting to EN 50022
Dimensions H x B x T	90 x 6,2 x 65 mm

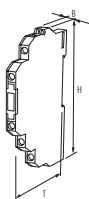
### Function diagram



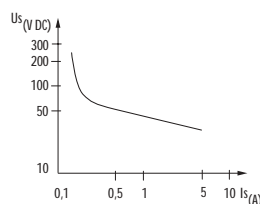
### Accessories

Label plate	Art.-No. 90901
Wire chain 16-pole	Art.-No. 90977
Bridging link max. 2 A	Art.-No. 90961
Bridging comb 10-pole, red	Art. No. 90976
End caps, 2 pieces, red	Art.-No. 90982
Bridging comb 10-pole, blue	Art.-No. 90975
End caps, 2 pieces, blue	Art.-No. 90980

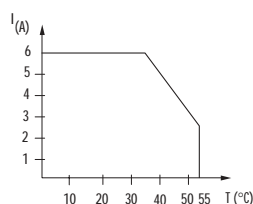
### Dimension drawing



### Load limit curve



### De-rating curve



### Switching capabilities to EN 60947

	AC 1	AC 15	DC 13
24 V	6 A	3 A	1 A
110 V	6 A	3 A	0,2 A
230 V	6 A	3 A	0,1 A

### Notes

For screw-type terminal connection, the item number changes from 6652... to 52... (i.e. the prefix 66 is dropped).

## For cradle relays



### MKS-K

Sockets for cradle relays with wiring method via screw terminals.  
Integrated LED and suppression.  
Snaps onto DIN-rail to EN 50 022 (35 mm).

Page 3.7.28

## For industrial relays



### MKS-J

Sockets for industrial relays with wiring method via screw terminals.  
Integrated LED and suppression.  
Snaps onto DIN-rail to EN 50 022 (35 mm).

Page 3.7.29

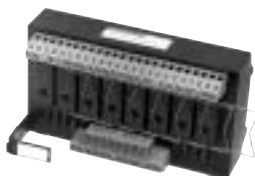


### IR 4

Sockets for industrial relays with wiring method via screw terminals.  
Snaps onto DIN-rail to EN 50 022 (35 mm).  
Versions in IP40 and IP20.

Page 3.7.30

## For small plug-in relays



### RT

Sockets for 3 or 8 card relays with wiring method via screw terminals.  
Snaps onto DIN-rail to EN 50 022 (35 mm).

Page 3.7.31



### RM

Sockets with 2, 4 or 8 plugged SNR-relays. Optionally with semiconductor relays.  
Snaps onto DIN-rail to EN 50 022 (35 mm).

Page 3.7.32



### MRB

Socket for plug-in relays with 1 or 2 C/O.  
Snaps onto DIN-rail to EN 50 022 (35 mm).  
Suitable for all plug-in relays and can be fitted with a suppressor.

Page 3.7.33

## For universal relays



### RP

Socket for universal relays in 8- and 11-pole version with wiring method via screw terminals.  
Snaps onto DIN-rail to EN 50 022 (35 mm).

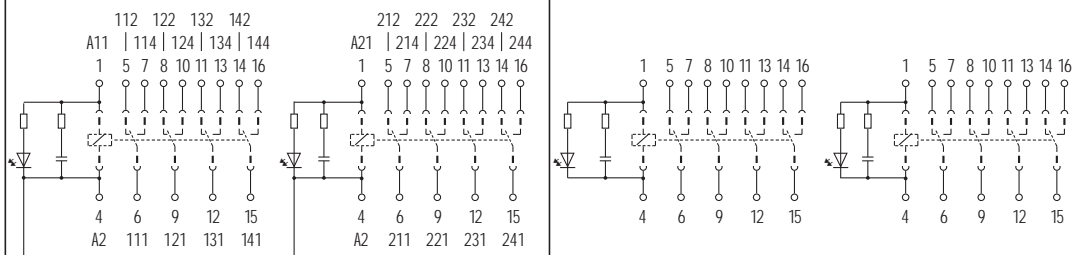
Page 3.7.34

## Sockets for cradle relays

**MKS-K**  
4 C/O contacts



### Circuit diagram



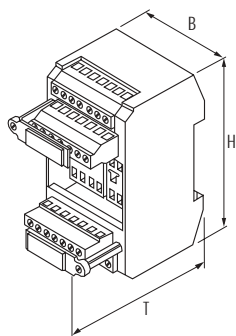
### Ordering data

Coil voltage	Suppression	Art.-No.	Art.-No.
24 V DC	LED + Diode	67030	67000
110 ... 230 V AC	LED + RC	67032	67001
24 ... 230 V AC/DC	No suppression	67033	67003

### Technical data

Relay socket	for cradle relays
Max. switched voltage	125 V AC/150 V DC
Max. switched current	2 A
Wiring method	screw terminals max. 4 mm <sup>2</sup>
Test insulation voltage	2,5 kV AC
Mounting method	DIN-rail mounting to EN 50022
Dimensions H x B x T	85 x 45 x 64 mm

### Dimension drawing



### Accessories

Accessories	Art.-No.
Plug-in relays 24 V DC	61422
Plug-in relays 230 V AC	61440
Holding clip 24 V	61428
Holding clip 230 V	61441

### Notes

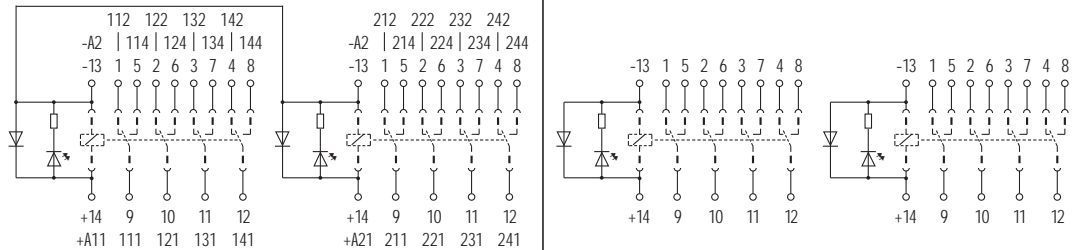
Accessories can be found in chapter 3.16

## Sockets for industrial relays

**MKS-J**  
4 C/O contacts



### Circuit diagram



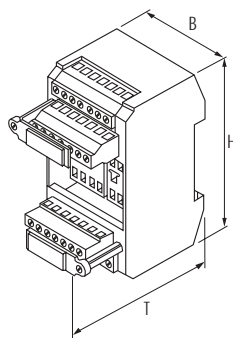
### Ordering data

Coil voltage	Suppression	Art.-No.	Art.-No.
24 V DC	LED + Diode	<b>67035</b>	<b>67010</b>
110 ... 230 V AC	LED + RC	<b>67037</b>	<b>67011</b>
24 ... 230 V AC/DC	No suppression	<b>67038</b>	<b>67013</b>

### Technical data

Relay socket	for industrial relays
Max. switched voltage	250 V AC/110 V DC
Max. switched current	3 A
Wiring method	screw terminals max. 4 mm <sup>2</sup>
Test insulation voltage	2,5 kV AC
Mounting method	DIN-rail mounting to EN 50022
Dimensions H x B x T	85 x 45 x 64 mm

### Dimension drawing



### Accessories

Accessories	Art.-No.
Plug-in relays 24 V DC	<b>61402</b>
Plug-in relays 230 V AC	<b>61401</b>
Holding clip 24 V	<b>61406</b>
Holding clip 230 V	<b>61406</b>

### Notes

Accessories can be found in chapter 3.16

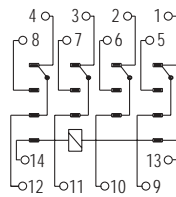
## Sockets for industrial relays

With 4 C/O contacts

IR 4



### Circuit diagram



### Ordering data

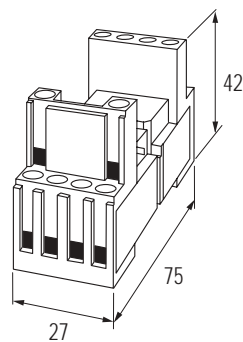
Art.-No.

Input voltage	Suppression	
... 230 V AC/DC	No suppression	61300

### Technical data

Relay socket	for industrial relays suppressor + LED + label plate
Max. switched voltage	250 V AC/110 V DC
Max. switched current	5 A
Wiring method	screw terminals
Mounting method	DIN-rail mounting to EN 50022
Proofing	IP40

### Dimension drawing



### Accessories

Art.-No.

Plug-in relays	24 V DC	61402
Plug-in relays	230 V AC	61401
Holding clip		61301
Label plate		61302
Suppression module + LED (green)	6 ... 24 V AC/DC	61303
	110 ... 230 V AC/DC	61304

### Notes

Accessories can be found in chapter 3.16

## Sockets for card relays

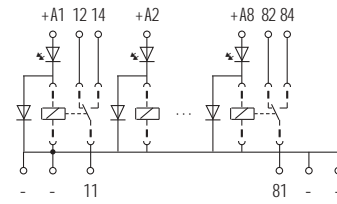
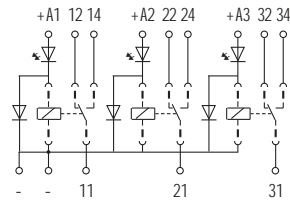
**RT**  
Sockets  
with 3 relay mounts



**RT**  
Sockets  
with 8 relay mounts



### Circuit diagram



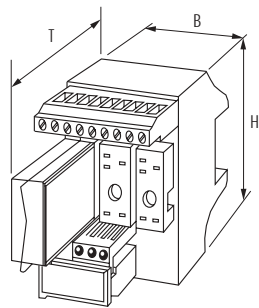
### Ordering data

Input voltage	Suppression	3 relay sockets	Art.-No.	8 relay sockets	Art.-No.
24 V DC	LED + Diode		<b>53010</b>		<b>53011</b>

### Technical data

Relay socket	for 3 relay sockets	for 8 relay sockets
Max. switched voltage	250 V AC/DC	250 V AC/DC
Max. switched current	5 A	5 A
Wiring method	screw terminals, max. 4 mm <sup>2</sup>	screw terminals, max. 4 mm <sup>2</sup>
Test insulation voltage input output	4,0 kV AC	4,0 kV AC
Mounting method	DIN-rail mounting to EN 50022	DIN-rail mounting to EN 50022
Dimensions H x B x T	76 x 45 x 70 mm (with plugged relays)	76 x 135 x 70 mm (with plugged relays)

### Dimension drawing



### Accessories

Plug-in relays	24 V DC	Art.-No.
Holding clip	supplied	<b>61410</b>

### Notes

Accessories can be found in chapter 3.16

**Sockets with plug-in relays**  
**Compact size**

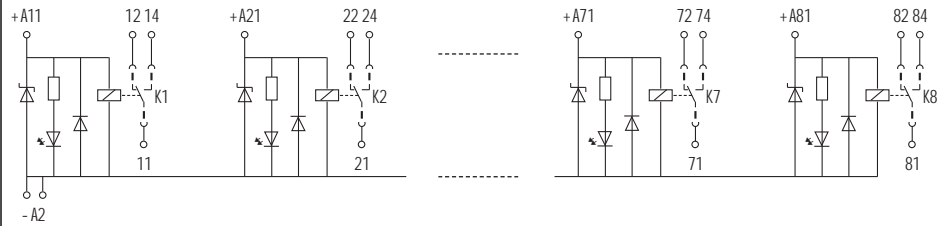
**RM**  
Sockets with 2 plugged relays

**RM**  
Sockets with 4 plugged relays

**RM**  
Sockets with 8 plugged relays



### Circuit diagram

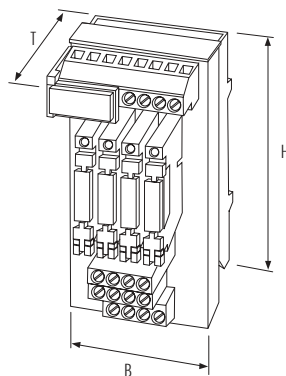


Art.-No. 53025 (schematic) <sup>1)</sup>

Ordering data		Art.-No.	Art.-No.	Art.-No.
Input voltage	Suppression	2 relays, each 1 C/O contact	4 relays, each 1 C/O contact	8 relays, each 1 C/O contact
24 V DC	LED + Diode	<b>53019</b>	<b>53020</b>	<b>53025</b>

Technical data	
Max. switched voltage / min. switched voltage	250 / 12 V AC/DC
Max. switched current / min. load current	6 A / 10 mA
Wiring method	screw terminals, max. 4 mm <sup>2</sup>
Test insulation voltage input output	4,0 kV AC
Mounting method	DIN-rail mounting to EN 50022
Dimensions H x B x T	86 x 22,5 x 75 mm      86 x 45 x 75 mm      86 x 67,5 x 75 mm

### Dimension drawing



### Switching capabilities to EN 60947

	AC 1	AC 15	DC 13
24 V	6 A	3 A	1 A
110 V	6 A	3 A	0,2 A
230 V	6 A	3 A	0,1 A

Accessories		Art.-No.
Relay (SNR)	24 V DC	max. switched current 6 A (included in the above listed part numbers)
Electronic load relay (ELR)	24 V DC	max. 2 A at 24 V DC for non mechanical switching
		<b>61513</b>
		<b>61506</b>

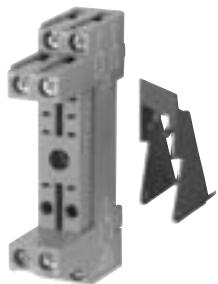
### Notes

<sup>1)</sup> Art.-No. 53019 and 53020 with individually - A2 connections

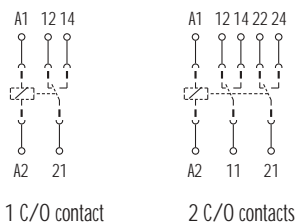


## Sockets for plug-in relays

**MRB**  
1 or 2 C/O contacts



### Circuit diagram



### Ordering data

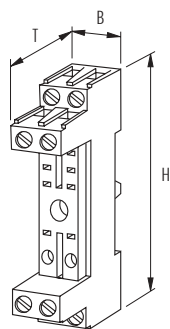
Art.-No.

Input voltage	Suppression	
... 230 V AC		51353

### Technical data

Relay socket	for plug-in relays see page 3.7.39
Additional suppressor	plug-in suppressor module see page 3.7.39
Max. switched voltage	250 V AC
Max. switched current	16 A
Wiring method	screw terminals, max. 4 mm <sup>2</sup>
Guidelines	touch protected to VBG 4 and VDE 0106 part 100 and 101
Test insulation voltage	5 kV AC
Mounting method	DIN-rail mounting to EN 50022
Dimensions H x B x T	75 x 15,5 x 42,5 mm

### Dimension drawing



Accessories	Art.-No.	Art.-No.	Art.-No.
	plug-in relays with 1 C/O contact	plug-in relays with 2 C/O contacts	suppression module
Coil voltage	24 V DC	61352	61340
	24 V AC	61354	61343
	110 V AC	61356	61341, 61342
	230 V AC	61358	61341, 61342
Holding clip for plug-in relays (switching module)	supplied	61359	

### Notes

Accessories suppression module see chapter 3.16

## Sockets for universal relays

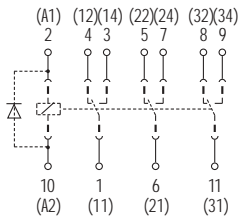
**RP**  
for 11-pole universal relay  
3 C/O contacts



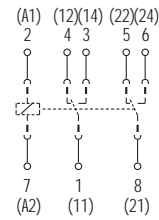
**RP**  
for 8-pole universal relay  
2 C/O contacts



### Circuit diagram



Art.-No. 61173



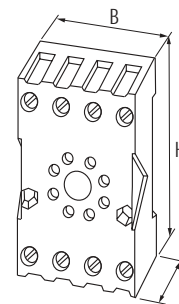
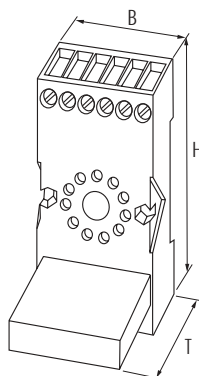
### Ordering data

Input voltage	Suppression	Art.-No.	Art.-No.
... 230 V DC	Diode	<b>61173</b>	
... 230 V AC/DC	No suppression	<sup>1)</sup> <b>61169</b>	<b>61179</b>

### Technical data

Relay socket	for universal-relays
Max. switched voltage	250 V AC/DC
Max. switched current	10 A
Wiring method	screw terminals, max. 4 mm <sup>2</sup>
Test insulation voltage	1,5 kV AC
Mounting method	DIN-rail mounting to EN 50022
Dimensions H x B x T	75 x 38 x 63 mm <sup>1)</sup> 75 x 38 x 27 mm (without relay)

### Dimension drawing



### Accessories

Accessories	Art.-No.	Art.-No.
Plug-in relays 24 V DC	<b>61472</b>	<b>61452</b>
Plug-in relays 24 V AC	<b>61478</b>	
Plug-in relays 230 V AC	<b>61482</b>	<b>61462</b>

### Notes

Accessories can be found in chapter 3.16

## General information to coupler relays

Coupler relays separate the load and logic side of the control system. They also clamp unwanted impulses on the input side of the control system.

### Cradle relay



#### Cradle relay

Plug-in cradle relay for base socket with 2 or 4 C/O contacts.

Page 3.7.36

### Industrial relay



#### Industrial relay

Plug-in industrial relay for base socket with 4 C/O contacts.

Page 3.7.36

### Universal relays



#### Universal relay

Plug-in universal relay, 8- or 11-pole, for base socket with 2 or 3 C/O contacts.  
With manual operation and LED.

Page 3.7.37

### Plug-in relays



#### Card relay

Plug-in card relay for base socket with 1 C/O contact.

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#### Plug-in relay

Plug-in relay available in 1 or 2 contacts.  
For use with MRB relay.

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## Plug-in relays for base socket

### Cradle relay 2 C/O contacts



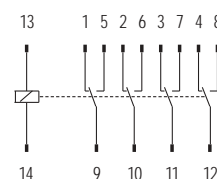
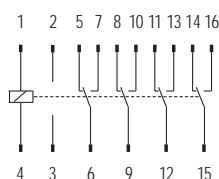
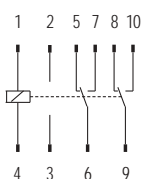
### Cradle relay 4 C/O contacts



### Industrial relay 4 C/O contacts



### Circuit diagram



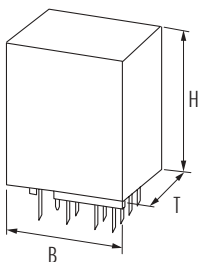
### Ordering data

Input voltage	Art.-No.	Art.-No.	Art.-No.
24 V DC	61436	61422	61402
24 V AC	61420		with suppressor and LED 61413
48 V DC		61423	61400
48 V AC			61403
230 V AC	61421	<sup>1)</sup> 61440	61408 61401

### Technical data

Technical data	2 C/O contacts	4 C/O contacts	4 C/O contacts
Contact	Ag Ni 0,15 hv; Ag hv	Ag Ni 0,15 hv; Ag hv	Ag Ni; Ag hv
Max. voltage range	125 V AC/150 V DC	125 V AC/150 V DC	250 V AC/110 V DC
Max. switched current	2 A	2 A	5 A
Max. power rating (voltage dependent)	50 VA/35 W	50 VA/35 W	1250 VA/100 W
Coil hold-on rating	2,2 VA/0,7 W	2,2 VA/0,9 W	1,4 VA/0,9 W
Switch-on time	6 ms	7,5 ms	18 ms
Dimensions H x B x T	30 x 24 x 19 mm	30 x 30 x 19 mm <sup>1)</sup> 40 x 30 x 19 mm	36 x 28 x 21 mm

### Dimension drawing



### Accessories

Accessories	Art.-No.	Art.-No.	Art.-No.
Holding clip 24 V	61427	61428	61406
Holding clip 48 V	61427	61428	61406
Holding clip 230 V	61427	61441	61406

### Notes

Relays in other voltages on request.

## Plug-in relays for base socket

### Card relay

1 C/O contact



### Universal relay

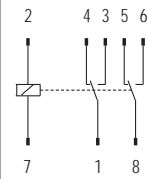
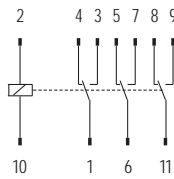
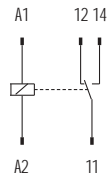
3 C/O contacts, 11-pole with manual operation and LED



### Universal relay

2 C/O contacts, 8-pole with manual operation and LED

#### Circuit diagram



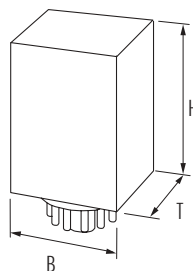
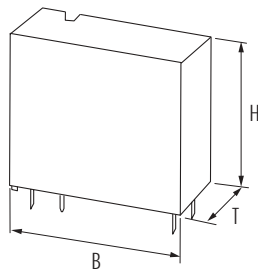
#### Ordering data

Input voltage	Art.-No.	Art.-No.	Art.-No.
24 V DC	1 C/O contact	3 C/O contacts	2 C/O contacts
24 V AC	<b>61410</b>	<b>61472</b>	<b>61452</b>
48 V DC		<b>61478</b>	
48 V AC		<b>61473</b>	
230 V AC		<b>61479</b>	
		<b>61482</b>	<b>61462</b>

#### Technical data

Contact	Ag Ni 0,15 hv	Ag Ni
Max. voltage range	250 V AC/300 V DC	250 V AC/220 V DC
Max. switched current	8 A	10 A
Max. power rating (voltage dependent)	2000 VA/250 W	2500 VA/240 W
Coil hold-on rating	0,5 W	2,2 VA/1,3 W
Switch-on time	8/8/2 ms	20 ms
Dimensions H x B x T	30 x 29 x 10 mm	37 x 35 x 57 mm

#### Dimension drawing



#### Notes

## Plug-in relays for base socket

### Plug-in relays MRS

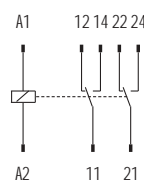
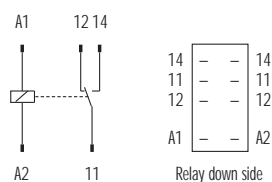
1 C/O contact

### Plug-in relays MRS

2 C/O contacts



#### Circuit diagram



#### Ordering data

#### Art.-No.

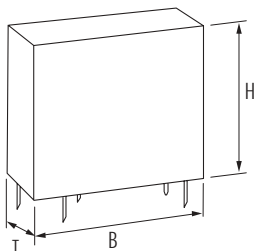
#### Art.-No.

Input voltage	1 C/O contact	2 C/O contacts
24 V DC	61352	61353
24 V AC	61354	61355
48 V DC		
48 V AC		
110 V AC	61356	61357
230 V AC	61358	61359

#### Technical data

Contact	Ag Cd O	Ag Ni
Max. voltage range	250 V AC/DC	
Min. load current	12 V/100 mA	
Max. switched current	16 A	5 A
Max. power rating (voltage dependent)	4000 VA/300 W	1250 VA/110 W
Suppression	see accessories	
Coil hold-on rating	1,6 VA/0,65 W	
Switch-on time	15/20 ms	
Dimensions H x B x T	25 x 29 x 12,4 mm	

#### Dimension drawing



#### Accessories

#### Art.-No.

Suppression module	24 V DC	MRE module with LED-indicator and free wheeling diode	61340
	24 V AC	MRE module with LED-indicator and diode-suppression	61343
	110...230 V AC	MRE module with varistor-suppression	61341
	110...230 V AC	MRE module with LED-indicator without suppression	61342
Socket with holding clip			51353

#### Notes

Accessories can be found in chapter 3.16