

# OPTOCOUPPLERS / SEMICONDUCTORS SWITCHING WITHOUT WEAR

- Shortest possible switching times
- High switching frequencies
- Resistant to EMC interference

## MILLIONS OF SWITCHING CYCLES – EVEN WITH HIGH FREQUENCIES

Optocouplers and semiconductors are used to combine different signal levels or to isolate one signal from another. They are similar to a relay interface because they provide an optoelectronic signal transfer between input and output.

Optocouplers and semiconductors have a long life span because they don't have any mechanical components that could wear out. They are suitable for applications with high switching frequencies, even over a long time.

### Some benefits of optocouplers and semiconductors:

- Silent operation
- No contact bounce
- Galvanic separation between input and output
- High resistance to shock and vibration
- High switching currents
- Low input power

## Optocouplers / Semiconductors



### Optocouplers

- DC applications

Page 1.11.1



### Semiconductors

- AC applications

Page 1.11.17

## Terminal optocoupler

– with bridge system

### MIRO 6.2

Transistor 1 A  
Screw terminals



### MIRO 6.2

Transistor 1 A  
Spring clamp terminals



### MIRO 6.2

Transistor 2 A  
Screw terminals

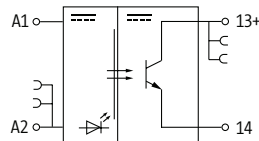


### MIRO 6.2

Transistor 2 A  
Spring clamp terminals



## Circuit diagram



## Order Data

24 V DC/6 mA

Art-No.

52515

cURus

Art-No.

6652515

Art-No.

52502

cURus, cCSAus

Art-No.

6652502

5 V DC/6 mA

## Input

Voltage range ON

11...30 V DC

Voltage range OFF

0...5 V DC

Control current

6 mA

LED display

LED (yellow)

## Output

Switching voltage

3...48 V DC

Switching current per output

500 µA...1 A

Saturation voltage (across output)

max. 0.12 V DC

Leakage current (when output is open)

max. 25 µA

Switching time ON/OFF

1.5/1 ms (100 mA load)

Switching frequency

max. 40/4 Hz (resist./ind.)

## General data

Test isolation voltage

500 V

Temperature range

-20...+60 °C

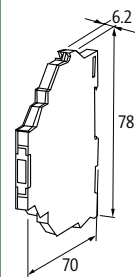
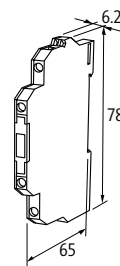
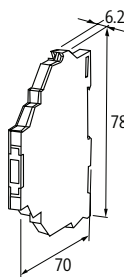
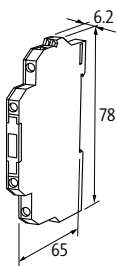
Mounting method

DIN-rail mountable (EN 60715)

Housing

Black plastic, flame retardant

## Dimension drawing



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## Notes

# OPTOCOUPLEDERS / SEMICONDUCTORS

## Terminal optocoupler

– with bridge system

### MIRO 6.2

Transistor 2 A  
Screw terminals



### MIRO 6.2

Transistor 2 A  
Spring clamp terminals



### MIRO 6.2

Transistor 2 A  
Screw terminals



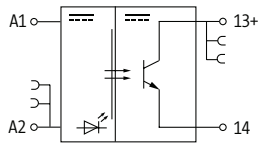
### MIRO 6.2

Transistor 2 A  
Spring clamp terminals



Approvals:

## Circuit diagram



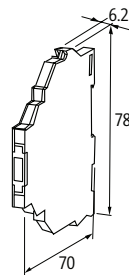
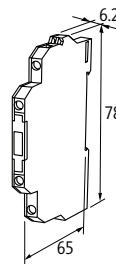
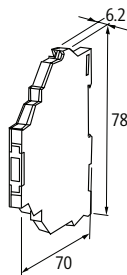
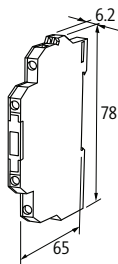
Order Data	Art-No.	Art-No.	Art-No.	Art-No.
24 V DC/6 mA	52501	6652501		
48 V DC/6 mA			52505	6652505

Input		
Voltage range ON	10...48 V DC	18...56 V DC
Voltage range OFF	0...5 V DC	0...12 V DC
Control current	6 mA	
LED display	LED (yellow)	

Output	
Switching voltage	5...48 V DC
Switching current per output	1 mA...2 A
Saturation voltage (across output)	max. 0.3 V DC
Leakage current (when output is open)	max. 10 µA
Switching time ON/OFF	1/5 ms
Switching frequency	max. 10/1 Hz (resist./ind.)

General data	
Test isolation voltage	2.5 kV
Temperature range	-20...+60 °C
Mounting method	DIN-rail mountable (EN 60715)
Housing	Black plastic, flame retardant

## Dimension drawing



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## Notes

# OPTOCOUPLEDERS / SEMICONDUCTORS

## Terminal optocoupler

– with bridge system



### MIRO 6.2

Transistor 6 A  
Screw terminals



### MIRO 6.2

Transistor 6 A  
Spring clamp terminals



### MIRO 6.2

Transistor 10 A  
Screw terminals

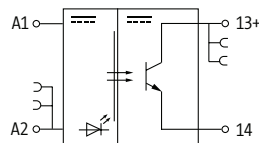


### MIRO 6.2

Transistor 10 A  
Spring clamp terminals



### Circuit diagram



### Order Data

24 V DC/6 mA

### Art-No.

52519

### Art-No.

6652519

### Art-No.

52520

### Art-No.

6652520

24 V DC/10 mA

52520

6652520

### Input

Voltage range ON

10...53 V DC

Voltage range OFF

0...5 V DC

Control current

approx. 10 mA

10 mA

LED display

LED (yellow)

### Output

Switching voltage

5...48 V DC

Switching current per output

1 mA...6 A (without derating)

1 mA...10 A

Saturation voltage (across output)

max. 0.1 V DC

max. 0.12 V DC

Leakage current (when output is open)

max. 25 µA

Switching time ON/OFF

2/5 ms

2/5 ms (10 A load)

Switching frequency

max. 1/0.1 Hz (resist./ind.)

### General data

Test isolation voltage

2.75 kV

Temperature range

-20...+60 °C

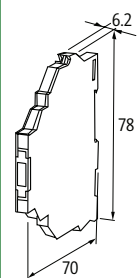
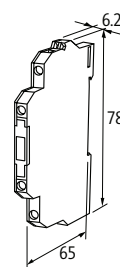
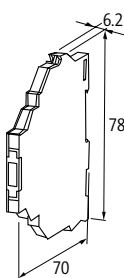
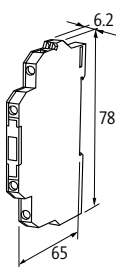
Mounting method

DIN-rail mountable (EN 60715)

Housing

Black plastic, flame retardant

### Dimension drawing



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### Notes

# OPTOCOUPLEDERS / SEMICONDUCTORS

Terminal optocoupler  
– with bridge system

**MIRO 6.2**  
Transistor 10 A  
Screw terminals



**MIRO 6.2**  
Transistor 10 A  
Spring clamp terminals



**MIRO 6.2**  
Transistor 0.5 A  
Screw terminals

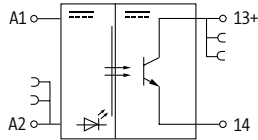


**MIRO 6.2**  
Transistor 0.5 A  
Spring clamp terminals



Approvals:  

## Circuit diagram



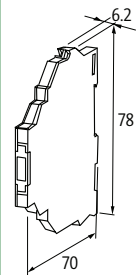
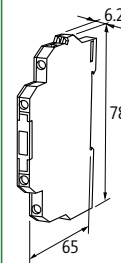
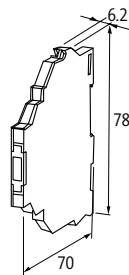
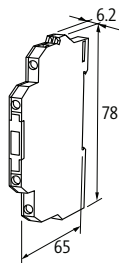
Order Data	Art-No.	Art-No.	Art-No.	Art-No.
24 V DC/10 mA (pulse control operation)	52521	6652521		
24 V DC/6 mA			52500	6652500

Input	
Voltage range ON	10...53 V DC
Voltage range OFF	0...5 V DC
Control current	10 mA
LED display	LED (yellow)

Output	
Switching voltage	5...48 V DC
Switching current per output	1 mA...10 A, overload and short circuit protection switched positive
Saturation voltage (across output)	max. 0.12 V DC
Leakage current (when output is open)	max. 25 µA
Switching time ON/OFF	2/5 ms (10 A load)
Switching frequency	max. 1 Hz

General data	
Test isolation voltage	2.75 kV
Temperature range	-20...+60 °C
Mounting method	DIN-rail mountable (EN 60715)
Housing	Black plastic, flame retardant

## Dimension drawing



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## Notes

## Terminal optocoupler

– with bridge system

### MIRO 6.2

Transistor 0.5 A  
Screw terminals



### MIRO 6.2

Transistor 0.5 A  
Spring clamp terminals



### MIRO 6.2

Transistor 0.5 A  
Screw terminals



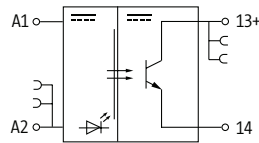
### MIRO 6.2

Transistor 0.5 A  
Spring clamp terminals



Approvals:

### Circuit diagram



### Order Data

110 V AC/DC/6 mA

### Art-No.

52506

### Art-No.

6652506

### Art-No.

52507

### Art-No.

6652507

230 V AC/6 mA

### Input

Voltage range ON

70...130 V AC/DC

Voltage range OFF

0...30 V AC/DC

Control current

6 mA

LED display

LED (yellow)

### Output

Switching voltage

5...48 V DC

Switching current per output

0.1 mA...0.5 A

Saturation voltage (across output)

max. 1.2 V DC

Leakage current (when output is open)

max. 0.3 mA

Switching time ON/OFF

100/700 µs

Switching frequency

max. 500/30 Hz (resist./ind.)

### General data

Test isolation voltage

3.75 kV

Temperature range

-20...+60 °C

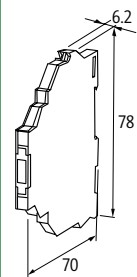
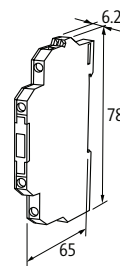
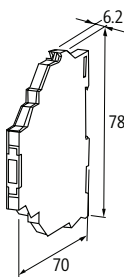
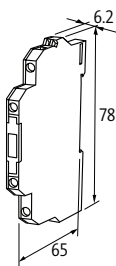
Mounting method

DIN-rail mountable (EN 60715)

Housing

Black plastic, flame retardant

### Dimension drawing



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### Notes

# OPTOCOUPLEDERS / SEMICONDUCTORS

## Terminal optocoupler

– with bridge system

### MIRO 6.2

Transistor 2 A  
Screw terminals



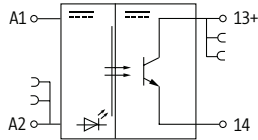
### MIRO 6.2

Transistor 2 A  
Spring clamp terminals



Approvals:  

### Circuit diagram

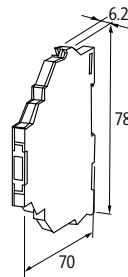
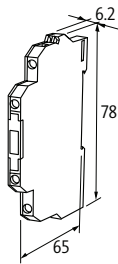


<b>Order Data</b>		<b>Art-No.</b>	<b>Art-No.</b>
230 V AC/6 mA		52508	6652508

<b>Input</b>	
Voltage range ON	90...250 V AC
Voltage range OFF	0...30 V AC
Control current	15 mA
LED display	LED (yellow)
<b>Output</b>	
Switching voltage	5...48 V DC
Switching current per output	1 mA...2 A (without derating)
Saturation voltage (across output)	max. 0.3 V DC
Leakage current (when output is open)	max. 0.3 mA
Switching frequency	max. 10/1 Hz (resist./ind.)
Switching time ON/OFF	3/10 ms

<b>General data</b>	
Test isolation voltage	2.5 kV
Temperature range	-20...+60 °C
Mounting method	DIN-rail mountable (EN 60715)
Housing	Black plastic, flame retardant

### Dimension drawing



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### Notes

## Terminal optocoupler

– with bridge system

Approvals:

### MIRO 6.2

Transistor 2 A  
Inrush current limiting  
Screw terminals



### MIRO 6.2

Transistor 2 A  
Inrush current limiting  
Spring clamp terminals



### MIRO 6.2

Transistor 0.5 A  
electr. NO/NC contact  
Screw terminals

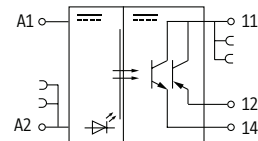
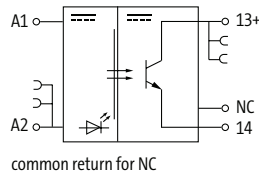


### MIRO 6.2

Transistor 0.5 A  
electr. NO/NC contact  
Spring clamp terminals



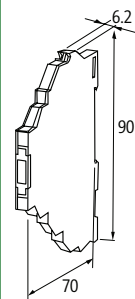
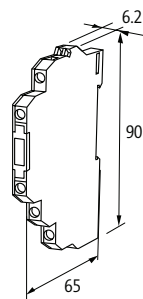
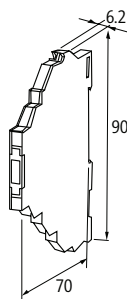
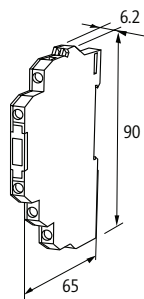
## Circuit diagram



Order Data	Art-No.	Art-No.	Art-No.	Art-No.
24 V DC/6 mA	52512	6652512	52510	6652510

Input				
Voltage range ON	10...53 V DC			
Voltage range OFF	0...5 V DC			
Control current	6 mA			
LED display	LED (yellow)			
Output				
Switching voltage	5...48 V DC			
Switching current per output	1 mA...2 A overload protection		0.1 mA...0.5 A	
Saturation voltage (across output)	max. 0.35 V DC		max. 1.2 V DC	
Leakage current (when output is open)	max. 0.1 mA			
Switching time ON/OFF	5/10 ms		40/150 µs	
Switching frequency	max. 10 Hz			
General data				
Test isolation voltage	2.5 kV		3.75 kV	
Temperature range	-20...+60 °C			
Mounting method	DIN-rail mountable (EN 60715)			
Housing	Black plastic, flame retardant			

## Dimension drawing



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## Notes



# OPTOCOUPLEDERS / SEMICONDUCTORS

## Terminal optocoupler

– with bridge system

Approvals:  **us**

### MIRO 6.2

Transistor 0.5 A  
Control current 0.1 mA (5 V DC)  
Screw terminals



### MIRO 6.2

Transistor 0.5 A  
Control current 0.1 mA (5 V DC)  
Spring clamp terminals



### MIRO 6.2

Transistor 2 A  
short-circuit protected  
Screw terminals

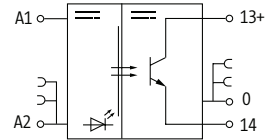
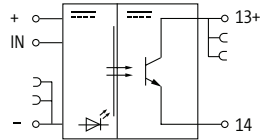


### MIRO 6.2

Transistor 2 A  
short-circuit protected  
Spring clamp terminals



## Circuit diagram



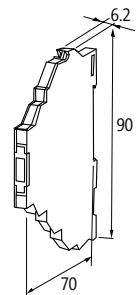
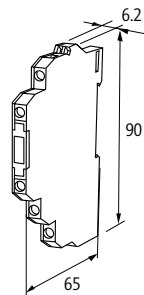
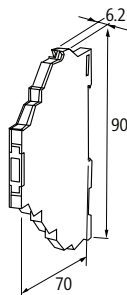
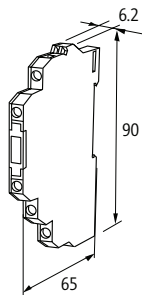
Order Data	Art-No.	Art-No.	Art-No.	Art-No.
24 V DC/0.1 mA (5 V DC)	cCSAus	<b>52511</b>	cCSAus	<b>6652511</b>
24 V DC/6 mA			<b>52503</b>	<b>6652503</b>

Input		
Voltage range ON	4.2...30 V DC	10...48 V DC
Voltage range OFF	0...2 V DC	0...5 V DC
Control current	0.1 mA (5 V)	6 mA
LED display	LED (yellow)	

Output		
Switching voltage	5...48 V DC	10...35 V DC
Switching current per output	0.1 mA...0.5 A	1 mA...2 A (short-circuit protected)
Saturation voltage (across output)	max. 1.2 V DC	
Leakage current (when output is open)	max. 0.1 mA	
Switching time ON/OFF	12/12 µs	90/120 µs
Switching frequency	max. 20 kHz	max. 1 kHz

General data	
Test isolation voltage	3.75 kV
Temperature range	-20...+60 °C
Mounting method	DIN-rail mountable (EN 60715)
Housing	Black plastic, flame retardant

## Dimension drawing



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## Notes

## Terminal optocoupler

– with bridge system

### MIRO 6.2

Transistor 1 A  
Multi voltage output  
Screw terminals



### MIRO 6.2

Transistor 1 A  
Multi voltage output  
Spring clamp terminals



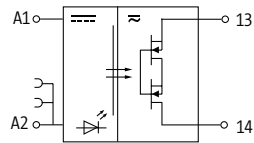
### MIRO 6.2

Transistor 2 A  
Spring clamp terminals

### MIRO 6.2

Transistor 0.1 A  
Spring clamp terminals

## Circuit diagram



## Order Data

24 V DC/10 mA

Art-No.  
52572

Art-No.  
6652572

Art-No.  
526071

Art-No.  
526100

## Input

Voltage range ON	10...53 V DC	10...35 V DC	10...30 V DC
Voltage range OFF	0...5 V DC		0...7 V DC
Control current	10 mA	6 mA	5.5 mA
LED display	LED (yellow)	LED (green)	LED (yellow)

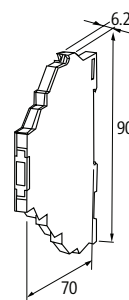
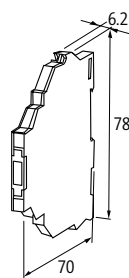
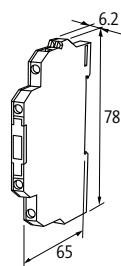
## Output

Switching time ON/OFF	3/6 ms	7/6 µs	0.4/0.1 µs
Switching voltage	5...250 V AC/5...350 V DC	10...30 V DC	5...48 V DC
Switching current per output	1 mA...1 A	1 mA...2 A	0...0.1 A
Saturation voltage (across output)	max. 0.7 V AC/DC	max. 0.3 V AC/DC	max. 1.2 V AC/DC
Leakage current (when output is open)	max. 25 µA		max. 250 µA
Switching frequency	max. 10 Hz	max. 30 kHz/400 Hz (resist./ind.)	500 kHz (ohmic)

## General data

Test isolation voltage	2.75 kV	2.5 kV	2.75 kV
Temperature range	-20...+60 °C		
Mounting method	DIN-rail mountable (EN 60715)		
Housing	Black plastic, flame retardant		

## Dimension drawing



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## Notes

# OPTOCOUPLEDERS / SEMICONDUCTORS

## Terminal optocoupler

– Isolation function in output circuit

Approvals:  

### MIRO 6.2

Transistor 2 A  
Screw terminals

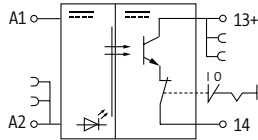


### MIRO 6.2

Transistor 2 A  
Spring clamp terminals



## Circuit diagram

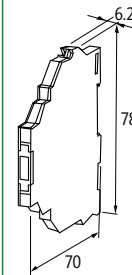
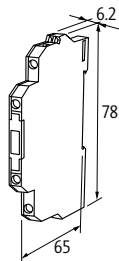


<b>Order Data</b>	<b>Art-No.</b>	<b>Art-No.</b>
24 V DC / 7 mA	52513	6652513

<b>Input</b>	
Voltage range ON	10...48 V DC
Voltage range OFF	0...5 V DC
Control current	7 mA
LED display	LED (yellow)
<b>Output</b>	
Switching time ON/OFF	1/5 ms
Switching current per output	1 mA...2 A
Switching voltage	5...48 V DC
Saturation voltage (across output)	max. 0.3 V DC
Leakage current (when output is open)	max. 0.3 mA
Switching frequency	max. 10/1 Hz (resist./ind.)

<b>General data</b>	
Temperature range	-20...+60 °C
Housing	Black plastic, flame retardant
Test isolation voltage	2.5 kV
Mounting method	DIN-rail mountable (EN 60715)

## Dimension drawing



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## Notes

## Optocouplers

- Inrush current limiting
- Screw terminals

### AMMS

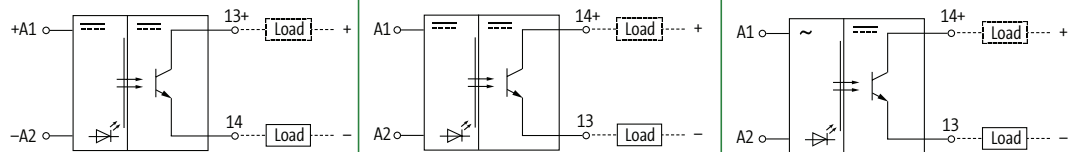
Transistor 1.2 A



### EMMS

Transistor 1.2 A

#### Circuit diagram



#### Order Data

	Art-No.	Art-No.	Art-No.
3.5...5.5 V DC/6 mA	50041		
24 V DC/6 mA		50040	
110/230 V AC/2.7 mA			50105

#### Input

Voltage range ON	3.5...5.5 V DC	10...53 V DC	100...253 V AC
Voltage range OFF	0...0.8 V DC	0...3 V DC	0...40 V AC
Input current	6 mA		2.7 mA
LED display	LED (red)		

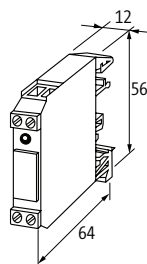
#### Output

Leakage current (when output is open)	max. 0.3 mA		
Switching current per output	1 mA...1.2 A		
Switching voltage	4.5...53 V DC		
Saturation voltage (across output)	max. 1.2 V DC		
Switching time ON/OFF	100/700 $\mu$ s		20/50 ms
Switching frequency	max. 500 Hz (resist.) at max. 0.2 A/max. 30 Hz (ind.)		max. 5 Hz

#### General data

Test isolation voltage	3.75 kV		
Temperature range	-20...+60 °C		
Mounting method	DIN-rail mountable TH35 or G32 (EN 60715)		
Housing	Black plastic, flame retardant		

#### Dimension drawing



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#### Notes

# OPTOCOUPLEDERS / SEMICONDUCTORS

## Optocouplers

- Inrush current limiting
- Screw terminals

### AMMS

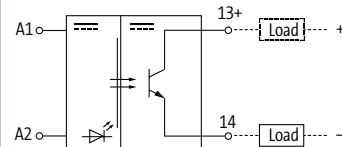
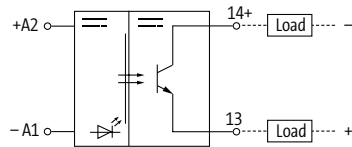
Transistor 1.2 A



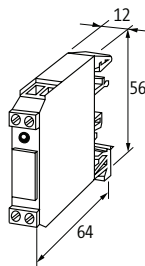
### AMMS

Transistor 2 A

#### Circuit diagram



Order Data	Art-No.	Art-No.
4...30 V DC/10 mA	50010	
24 V DC/6 mA		50070
<b>Input</b>		
Voltage range ON	4...30 V DC	10...53 V DC
Voltage range OFF	0...2 V DC	0...3 V DC
Input current	max. 10 mA	6 mA
LED display	LED (red)	
<b>Output</b>		
Switching voltage	4.5...44 V DC	4.5...40 V DC
Switching current per output	1 mA...1.2 A	10 mA...2 A
Saturation voltage (across output)	max. 1.2 V DC	max. 0.1 V DC
Leakage current (when output is open)	max. 0.3 mA	max. 0.1 mA
Switching time ON/OFF	65/65 µs	2/8 ms
Switching frequency	max. 7 kHz (resist.) at max. 0.3 A/max. 10 Hz (ind.)	max. 2.5 Hz
<b>General data</b>		
Test isolation voltage	3.75 kV	2.5 kV
Temperature range	-20...+60 °C	
Mounting method	DIN-rail mountable TH35 or G32 (EN 60715)	
Housing	Black plastic, flame retardant	
<b>Dimension drawing</b>		



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#### Notes

## Optocouplers

– Double terminals on the output side

– Screw terminals

### AMMDS

Transistor 0.1 A  
with minus plug link



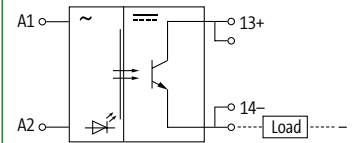
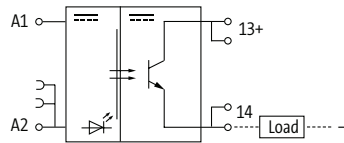
### AMMDS

Transistor 2 A  
with minus plug link

### AMMDS

Transistor 0.1 A

## Circuit diagram



## Order Data

24 V DC/6 mA

### Art-No.

50081

### Art-No.

50080

### Art-No.

50110

230 V AC/10 mA

50110

## Input

LED display	LED (red)		
Input current	6 mA		7.5 mA
Plug link (supplied)	Art.-Nr. 90960		–
Voltage range ON	10...53 V DC		195...253 V AC
Voltage range OFF	0...3 V DC		0...110 V AC

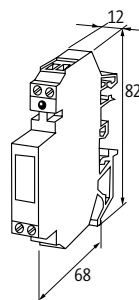
## Output

Switching voltage	4...40 V DC	4...35 V DC	4...40 V DC
Switching current per output	1 mA...0.1 A	10 mA...2 A (short-circuit protected)	1 mA...0.1 A
Saturation voltage (across output)	max. 1.2 V DC	max. 0.5 V DC	max. 1.2 V DC
Leakage current (when output is open)	max. 0.3 mA		
Switching time ON/OFF	1.5/2 ms	5/15 ms	50/120 ms
Switching frequency	max. 300/40 Hz (resist./ind.)	max. 10/1 Hz (resist./ind.)	

## General data

Temperature range	-20...+60 °C		
Mounting method	DIN-rail mountable TH35 or G32 (EN 60715)		
Housing	Black plastic, flame retardant		
Test isolation voltage	3.75 kV	2.5 kV	3.75 kV

## Dimension drawing



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## Notes

# OPTOCOUPLEDERS / SEMICONDUCTORS

## Optocouplers

– with minus plug link

– Screw terminals

### AMMDS

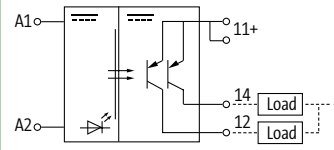
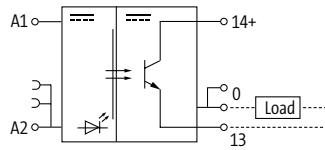
Transistor 2 A  
Double terminals on the output side  
for rapid switching



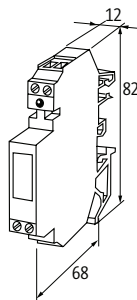
### AMMDS

Transistor 1 A

#### Circuit diagram



Order Data	Art-No.	Art-No.
24 V DC/15 mA	50082	
24 V AC/DC/10 mA		50085
Input		
Voltage range ON	10...35 V DC	10...53 V DC
Voltage range OFF	0...5 V DC	0...6 V DC
Input current	10 mA	
LED display	LED (red)	
Plug link (supplied)	Art.-Nr. 90960	–
Output		
Switching voltage	5...35 V DC	4.5...53 V DC
Switching current per output	1 mA...2 A	1 mA...1 A
Saturation voltage (across output)	max. 0.5 V DC	
Leakage current (when output is open)	max. 0.3 mA	
Switching time ON/OFF	7/6 µs	25/75 µs
Switching frequency	max. 30 kHz/200 Hz (resist./ind.)	max. 1 kHz/10 Hz (resist./ind.)
General data		
Test isolation voltage	2.5 kV	
Temperature range	-20...+60 °C	
Mounting method	DIN-rail mountable TH35 or G32 (EN 60715)	
Housing	Black plastic, flame retardant	
Dimension drawing		



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#### Notes

## Power opto-coupler modules

### – Screw terminals

#### AMS

Transistor 4 A



#### AMS

Transistor 2 A (3-way)  
3 NO contacts

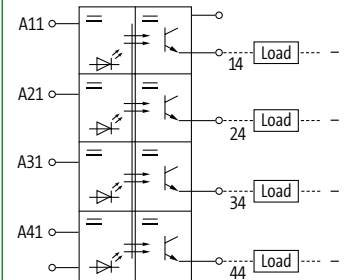
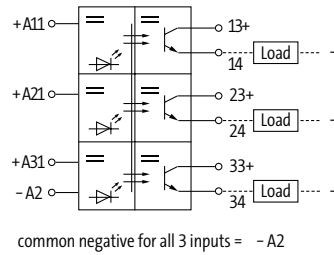
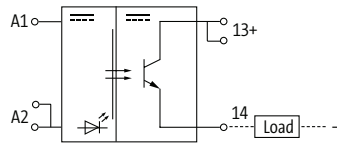


#### AMS

Transistor 2 A (4-way)  
4 NO

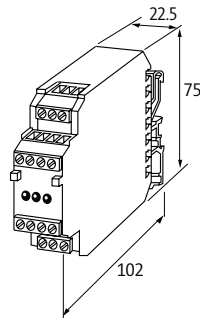


### Circuit diagram



Order Data	Art-No.	Art-No.	Art-No.
24 V DC/10 mA	50044	50043	
24 V DC/3 mA			cCSAus 50015
<b>Input</b>			
Voltage range ON	10...53 V DC		20...30 V DC
Voltage range OFF	0...3 V DC		0...6 V DC
Input current	14.5 mA	10 mA	27 mA
LED display	LED (red)		LED (yellow)
<b>Output</b>			
Switching voltage	4.5...53 V DC	4.5...35 V DC	5...30 V DC
Switching current per output	100 mA...4 A	10 mA...2 A (short-circuit protected)	1 mA...2 A
Saturation voltage (across output)	max. 1.5 V AC	max. 0.5 V DC	max. 0.05 V DC
Leakage current (when output is open)	max. 10 mA	max. 0.3 mA	max. 0.01 mA
Switching time ON/OFF	4/7 µs	2/15 ms	1/5 ms
Switching frequency	max. 2 kHz/4 Hz (resist./ind.)	max. 10/1 Hz (resist./ind.)	
<b>General data</b>			
Test isolation voltage	3.75 kV	2.5 kV	
Temperature range	-20...+60 °C		-25...+50 °C
Mounting method	DIN-rail mountable TH35 or G32 (EN 60715)		
Housing	Black plastic, flame retardant		

### Dimension drawing



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### Notes



# OPTOCOUPLEDERS / SEMICONDUCTORS

## Optocouplers

– DC Motor control

– Over current /  
temperature monitoring

### MIRO 12.4

Transistor 3 A  
Screw terminals

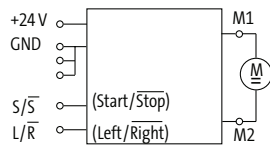


### MIRO 12.4

Transistor 3 A  
Spring clamp terminals



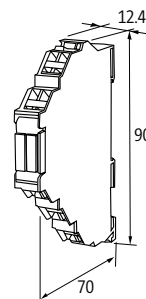
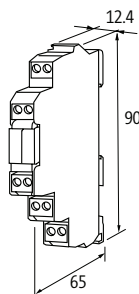
## Circuit diagram



Order Data	Art-No.	Art-No.
24 V DC/10 mA	50140	6650140

Input	
Voltage range ON	15...30 V DC
Voltage range OFF	0...5 V DC
Input current	10 mA
LED display	LED (yellow): right running; LED (green): left running
Output	
Switching voltage	19.2...30 V DC
Switching current per output	max. 3 A
Highest current	approx. 6 A for 100 ms
Saturation voltage (across output)	max. 1.4 V DC
Leakage current (when output is open)	max. 10 mA
Switching time ON/OFF	1.2/10 ms
Switching frequency	max. 1 Hz (motor dependant)
Changing time	max. 50 ms
LED display	LED (red): error (over current/over heated)
General data	
Test isolation voltage	no galvanic separation
Temperature range	0...+50 °C
Mounting method	DIN-rail mountable TH35 or G32 (EN 60715)
Housing	Black plastic, flame retardant

## Dimension drawing



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## Notes

## Terminal triac

– Zero potential switch

### MIRO 6.2

Triac 0.5 A  
Screw terminals



### MIRO 6.2

Triac 0.5 A  
Spring clamp terminals



### MIRO 6.2

Triac 0.5 A  
Screw terminals



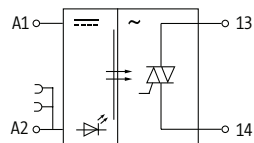
### MIRO 6.2

Triac 0.5 A  
Spring clamp terminals



Approvals:

## Circuit diagram



## Order Data

5 V DC/6 mA

Art-No.

52551

Art-No.

6652551

Art-No.

52550

Art-No.

6652550

24 V DC/6 mA

## Input

Voltage range ON

4...5.5 V DC

10...53 V DC

Voltage range OFF

0...2 V DC

0...5 V DC

Control current

6 mA

LED display

LED (yellow)

## Output

Switching voltage

24...250 V AC

Switching current per output

2 mA...0.5 A

1.5 mA...0.5 A

Saturation voltage (across output)

max. 1.5 V AC

Leakage current (when output is open)

max. 0.3 mA

Switching time ON/OFF

10/10 ms

Switching frequency

max. 20 Hz, depending on suppression

## General data

Test isolation voltage

2.5 kV

Temperature range

-20...+60 °C

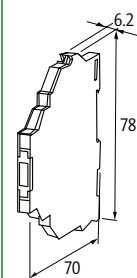
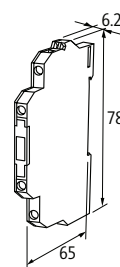
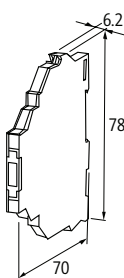
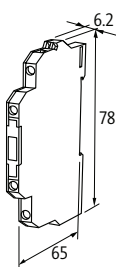
Mounting method

DIN-rail mountable (EN 60715)

Housing

Black plastic, flame retardant

## Dimension drawing



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## Notes

# OPTOCOUPLEDERS / SEMICONDUCTORS

## Terminal triac

### – Zero potential switch

#### MIRO 6.2

Triac 1 A  
Screw terminals

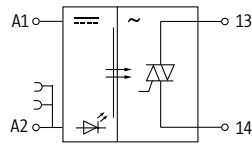


#### MIRO 6.2

Triac 1 A  
Spring clamp terminals



### Circuit diagram



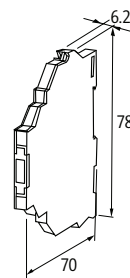
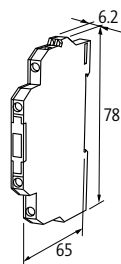
Order Data	Art-No.	Art-No.
24 V DC/9 mA	52571	6652571

Input	
Voltage range ON	12...53 V DC
Voltage range OFF	0...3 V DC
Control current	12 mA (24 V DC)
LED display	LED (yellow)

Output	
Switching voltage	12...250 V AC
Switching current per output	10 mA...1 A
Saturation voltage (across output)	max. 1.5 V AC
Leakage current (when output is open)	max. 1 mA
Switching time ON/OFF	10/10 ms
Switching frequency	max. 2 Hz, depending on suppression

General data	
Test isolation voltage	2.5 kV
Temperature range	0...+60 °C
Mounting method	DIN-rail mountable (EN 60715)
Housing	Black plastic, flame retardant

### Dimension drawing



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### Notes

**Terminal triac**

– Zero potential switch

**MIRO 6.2**

Triac 0.5 A  
Screw terminals



**MIRO 6.2**

Triac 0.5 A  
Spring clamp terminals



**MIRO 6.2**

Triac 0.5 A  
Screw terminals



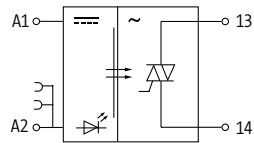
**MIRO 6.2**

Triac 0.5 A  
Spring clamp terminals



Approvals: **UL** <sub>US</sub>

**Circuit diagram**



**Order Data**

110 V AC/DC (95...121VAC/DC - 4 mA)  
230 V AC/7 mA

**Art-No.**  
52556

**Art-No.**  
6652556

**Art-No.**  
52557

**Art-No.**  
6652557

**Input**

Voltage range ON	70...130 V AC/DC	140...250 V AC
Voltage range OFF	0...35 V AC/DC	0...80 V AC
Control current	4 mA	7 mA

LED display: LED (yellow)

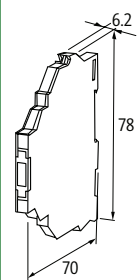
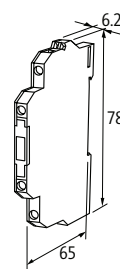
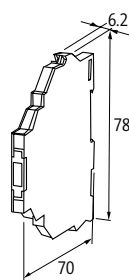
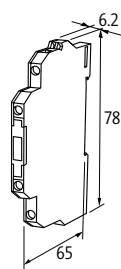
**Output**

Switching voltage	12...250 V AC	
Switching current per output	2 mA...0.5 A	
Saturation voltage (across output)	max. 1.5 V AC	
Leakage current (when output is open)	max. 0.3 A	max. 0.3 mA
Switching time ON/OFF	10/10 ms	
Switching frequency	max. 20 Hz, depending on suppression	

**General data**

Test isolation voltage	2.5 kV
Temperature range	-20...+60 °C
Mounting method	DIN-rail mountable (EN 60715)
Housing	Black plastic, flame retardant

**Dimension drawing**



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**Notes**

# OPTOCOUPLERS / SEMICONDUCTORS

## Terminal triac

### - Zero potential switch

## MIRO 6.2

Triac 0.5 A  
Screw terminals

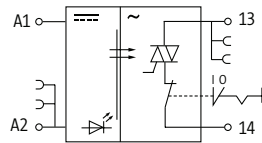


## MIRO 6.2

Triac 0.5 A  
Spring clamp terminals



## Circuit diagram



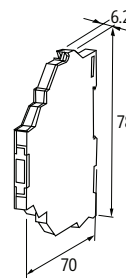
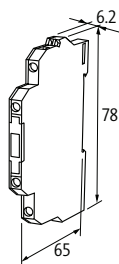
<b>Order Data</b>	<b>Art-No.</b>	<b>Art-No.</b>
24 V DC / 7 mA	52561	6652561

<b>Input</b>	
Voltage range ON	10...53 V DC
Voltage range OFF	0...5 V DC
Control current	7 mA
LED display	LED (yellow)

<b>Output</b>	
Switching voltage	24...250 V AC
Switching current per output	2 mA...0.5 A
Saturation voltage (across output)	max. 1.5 V AC
Leakage current (when output is open)	max. 0.3 mA
Switching time ON/OFF	10/10 ms
Switching frequency	max. 20/1 Hz (resist./ind.)

<b>General data</b>	
Test isolation voltage	2.5 kV
Temperature range	-20...+60 °C
Mounting method	DIN-rail mountable (EN 60715)
Housing	Black plastic, flame retardant

## Dimension drawing



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## Notes

## Triac modules MIRO

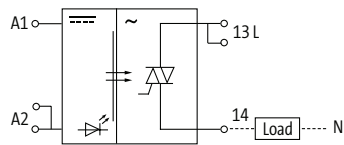
- Zero potential switch
- Screw plug-in terminals

### MIRO Triac

Triac 5 A



#### Circuit diagram



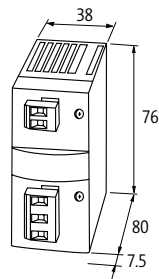
Order Data	Art-No.	Art-No.	Art-No.
24 V DC / 7.8 mA	3000-36001-2000020		
115 V AC / 9 mA		3000-36001-2000022	
230 V AC / DC - 10 mA			3000-36001-3000023

Input			
Voltage range ON	10...53 V DC	70...150 V AC	140...253 V AC
Voltage range OFF	0...3 V DC	0...25 V AC	0...50 V AC
Control current	approx. 7.8 mA	approx. 9 mA	approx. 10 mA
Control voltage	24 V DC	115 V AC	230 V AC
LED display	LED (green)		

Output			
Switching voltage	12...400 V AC		
Switching current per output	10 mA...5 A (no derating)		
Saturation voltage (across output)	max. 0.15 V AC		
Leakage current (when output is open)	max. 1 mA		
Switching time ON/OFF	10/10 ms		
Switching frequency	max. 20/1 Hz (resist./ind.)		
Surge current	70 A		

General data	
Temperature range	-20...+60 °C
Housing	Black plastic, flame retardant
Mounting method	DIN-rail mountable (EN 60715)

#### Dimension drawing



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#### Notes

# OPTOCOUPLEDERS / SEMICONDUCTORS

## Triac modules MIRO

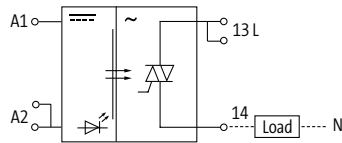
- Zero potential switch
- Screw plug-in terminals

## MIRO Triac

Triac 10 A



### Circuit diagram



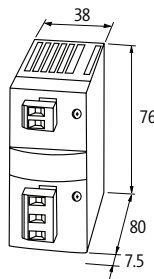
Order Data	Art-No.	Art-No.	Art-No.
24 V DC / 7.8 mA	3000-36001-2000025		
115 V AC / 9 mA		3000-36001-2000027	
230 V AC / DC - 10 mA			3000-36001-3000028

Input			
Voltage range ON	10...53 V DC	70...150 V AC	140...253 V AC
Voltage range OFF	0...3 V DC	0...25 V AC	0...50 V AC
Control current	approx. 7.8 mA	approx. 9 mA	approx. 10 mA
Control voltage	24 V DC	115 V AC	230 V AC
LED display	LED (green)		

Output	
Switching voltage	12...400 V AC
Switching current per output	100 mA / 10 A (no derating)
Saturation voltage (across output)	max. 0.15 V AC
Leakage current (when output is open)	max. 1 mA
Switching time ON/OFF	10/10 ms
Switching frequency	max. 20/1 Hz (resist./ind.)
Surge current	70 A

General data	
Temperature range	-20...+60 °C
Housing	Black plastic, flame retardant
Mounting method	DIN-rail mountable (EN 60715)

### Dimension drawing



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### Notes

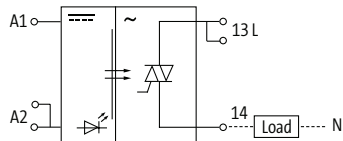
## Triac modules

- Zero potential switch
- Screw terminals

**AMS**  
Triac 4 A



### Circuit diagram



### Order Data

24 V DC / 10 mA

**Art-No.**

50034

### Input

Voltage range ON 10...53 V DC

Voltage range OFF 0...3 V DC

Input current 10 mA

LED display LED (red)

### Output

Switching voltage 24...250 V AC

Switching current per output 10 mA...4 A

Saturation voltage (across output) max. 1.4 V AC

Leakage current (when output is open) max. 10 mA

Switching time ON/OFF 10/10 ms

Switching frequency max. 30/5 Hz (resist./ind.)

### General data

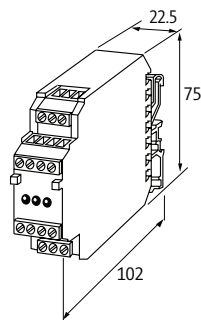
Test isolation voltage 6 kV

Temperature range -20...+60 °C

Mounting method DIN-rail mountable TH35 or G32 (EN 60715)

Housing Black plastic, flame retardant

### Dimension drawing



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### Notes



# OPTOCOUPLEDERS / SEMICONDUCTORS

## Triac modules

- Zero potential switch
- Screw terminals

### AMMS

Triac 1 A

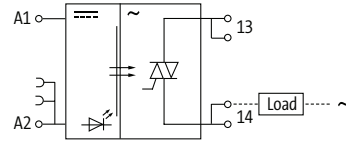
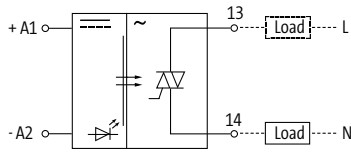


### AMMDS

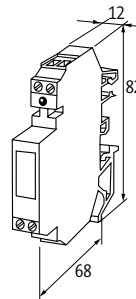
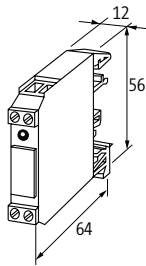
Triac 2 A  
with minus plug link



## Circuit diagram



Order Data	Art-No.	Art-No.
24 V DC/6 mA	50030	50092
<b>Input</b>		
Voltage range ON	10...53 V DC	10...35 V DC
Voltage range OFF	0...3 V DC	
Input current	6.6 mA	6 mA
LED display	LED (red)	
Plug link (supplied)	-	Art-Nr. 90960
<b>Output</b>		
Switching voltage	24...253 V AC	24...280 V AC
Switching current per output	50 mA...1 A	50 mA...2 A
Saturation voltage (across output)	max. 1.3 V AC	max. 1 V AC
Leakage current (when output is open)	max. 5 mA	max. 2 mA
Switching time ON/OFF	10/10 ms	
Switching frequency	max. 20 Hz	max. 20/5 Hz (resist./ind.)
<b>General data</b>		
Test isolation voltage	2.5 kV	
Temperature range	-20...+60 °C	
Mounting method	DIN-rail mountable TH35 or G32 (EN 60715)	
Housing	Black plastic, flame retardant	
<b>Dimension drawing</b>		



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## Notes

Labeling accessories			Art-No.
	<b>ACS label plate KM 5</b> for self marking (9 × 20 mm)		7000-99001-0000000
	<b>Label plate KM 4</b> 5 × 10 mm		90931
	<b>ACS label plate KM 6/18</b> for self marking with ADEMARK markers		7000-99003-0000000
	<b>Label plate KWI 5/15</b> (88 pieces per plate)		90901
Wiring accessories			Art-No.
	<b>Potential plug link</b> max. 50 V/2 A	MIRO	90961
	<b>Potential plug link</b> max. 48 V/2 A	RMM..., RMMD...	90960
	<b>Potential rail blue</b> 40-pole, spacing 12 mm	RMM..., RMMD...	90970
	10-pole, spacing 6.2 mm	MIRO 6.2 (screw terminals)	90975
	<b>Potential rail red</b> 40-pole, spacing 12 mm	RMM..., RMMD...	90971
	10-pole, spacing 6.2 mm	MIRO 6.2 (screw terminals)	90976
	<b>End caps for potential rail</b> blue	MIRO 6.2	90980
	red	RMM..., RMMD...	90982