

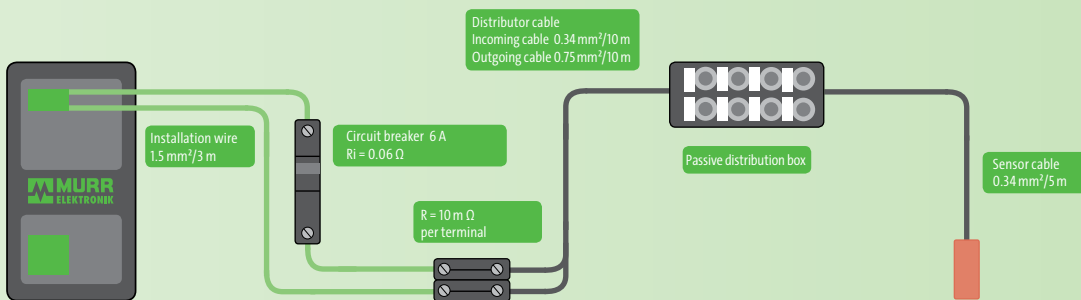
# MICO INTELLIGENT POWER DISTRIBUTION

- Monitor
- Detect
- React

## FIRST CLASS POWER DISTRIBUTION

MICO is the intelligent power distribution module from Murrelektronik for 24 VDC. It monitors currents, indicates when approaching the maximum load and make targeted circuit isolations during overload or short circuit conditions. This makes sure systems run at maximum capacity.

### EXAMPLE: Why don't circuit breakers trigger reliably in a 24 VDC system?



Specific resistance of copper ( $\rho$ ) = 0.0178 ( $\Omega \times \text{mm}^2 / \text{m}$ )  
 Total loop resistance = 1.32  $\Omega$   
 Calculation of maximum current flow  $I = \frac{U}{R} = \frac{24 \text{ V}}{1.32 \Omega} = 18.18 \text{ A}$   
 (Limited by loop resistance)

Required tripping current for the 6 A type C circuit breaker

$$14 \times I_{\text{Nenn}} = 14 \times 6 \text{ A} = 84 \text{ A}$$



Tripping current      max. Current flow  
 84 A                      >      18.18 A

## MICO



### MICO CLASSIC

- Adjustable current ranges
- Channels with remote switch on function
- Group alarm output

Page 1.5.3



### MICO+

- Adjustable current ranges
- Channels with remote switch on/off function
- Preventive diagnostics

Page 1.5.7



### MICO BASIC

- Preset current ranges
- Small size

Page 1.5.7



### MICO FUSE

- Socket for glass tube fuses

Page 1.5.10

# INTELLIGENT POWER DISTRIBUTION

## Over current protection device

- adjustable current ranges
- Early warning (90%)

Approvals:   



### MICO+ 4.4

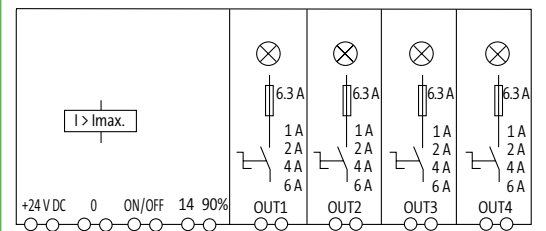
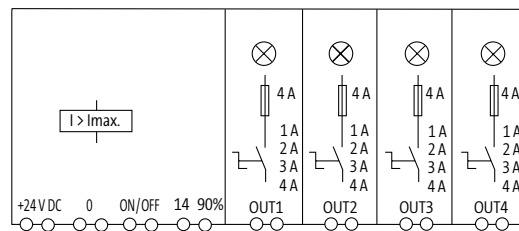
4 channels



### MICO+ 4.6

4 channels

## Circuit diagram



## Order Data

1 A, 2 A, 3 A, 4 A

1 A, 2 A, 4 A, 6 A

## Art-No.

9000-41084-0100400

## Art-No.

9000-41084-0100600

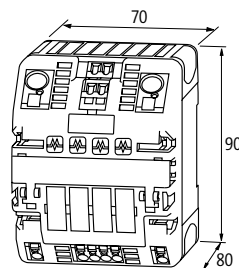
## Technical Data

Operating voltage	24 V DC (18...30 V DC)	
Current adjustment	1 A, 2 A, 3 A, 4 A, by countersunk rotary switch, sealed	1 A, 2 A, 4 A, 6 A, by countersunk rotary switch, sealed
Group alarm output	max. 20 mA; high: all channels ON; low: not all channels ON	
Inrush capacity	max. 20 mF (per channel)	
Remote start (ON)	10...30 V DC	
Remote start (OFF)	10...30 V DC	
Impulse length	min. 20 ms	
Early warning (90%)	max. 20 mA; high: one channel over 90%; low: all channels under 90%	

## General data

Connection	Spring clamp terminals
Input terminals	2 × 16 mm <sup>2</sup>
Output terminals	per output 2 × 1.5 mm <sup>2</sup>
Alarm terminals	2.5 mm <sup>2</sup>
Bridging concept	two sides, with spring clamp terminals or bridge set (max. 40 A)
Mounting method	DIN-rail mountable TH35 (EN 60715)
Temperature range	0...+55 °C (storage temperature -40...+80 °C)

## Dimension drawing



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## Notes

# INTELLIGENT POWER DISTRIBUTION

## Over current protection device

- adjustable current ranges
- Early warning (90%)

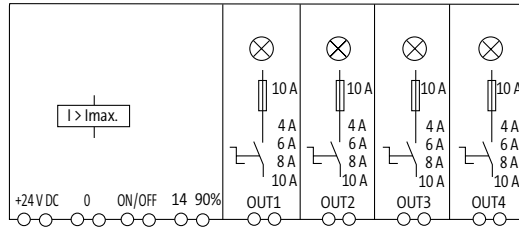


## MICO+ 4.10

4 channels



## Circuit diagram



## Order Data

4 A, 6 A, 8 A, 10 A

## Art-No.

9000-41084-0401000

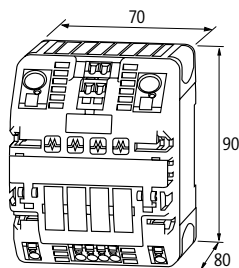
## Technical Data

Operating voltage	24 V DC (18...30 V DC)
Current adjustment	4 A, 6 A, 8 A, 10 A, by countersunk rotary switch, sealed
Group alarm output	max. 20 mA; high: all channels ON; low: not all channels ON
Inrush capacity	max. 20 mF (per channel)
Remote start (ON)	10...30 V DC
Remote start (OFF)	10...30 V DC
Impulse length	min. 20 ms
Early warning (90%)	max. 20 mA; high: one channel over 90%; low: all channels under 90%

## General data

Connection	Spring clamp terminals
Input terminals	2 × 16 mm <sup>2</sup>
Output terminals	per output 2 × 1.5 mm <sup>2</sup>
Alarm terminals	2.5 mm <sup>2</sup>
Bridging concept	two sides, with spring clamp terminals or bridge set (max. 40 A)
Mounting method	DIN-rail mountable TH35 (EN 60715)
Temperature range	0...+55 °C (storage temperature -40...+80 °C)

## Dimension drawing



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## Notes

# INTELLIGENT POWER DISTRIBUTION

## Over current protection device

### MICO 4.4

4 channels



### MICO 2.4

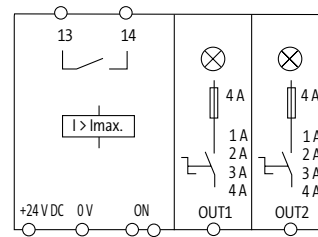
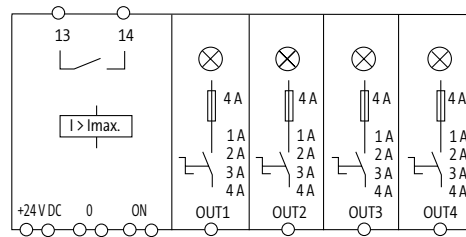
2 channels



Approvals:  



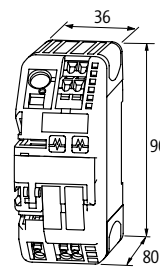
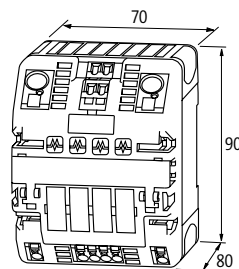
## Circuit diagram



Order Data	Art-No.	Art-No.
1 A, 2 A, 3 A, 4 A	9000-41034-0100400	9000-41042-0100400

Technical Data		
Operating voltage	24 V DC (18...30 V DC)	
Current adjustment	1 A, 2 A, 3 A, 4 A, by countersunk rotary switch, sealed	
Inrush capacity	max. 20 mF (per channel)	
Group alarm output	potential free alarm output 30 V AC/DC, 100 mA	
Remote start (ON)	10...30 V DC	
Impulse length	min. 20 ms	
General data		
Connection	Spring clamp terminals	
Input terminals	2 x 16 mm <sup>2</sup>	1 x 16 mm <sup>2</sup>
Output terminals	per output 1 x 4 mm <sup>2</sup>	
Alarm terminals	2.5 mm <sup>2</sup>	
Bridging concept	two sides, with spring clamp terminals or bridge set (max. 40 A)	one side, with spring clamp terminals or bridge set (max. 40 A)
Mounting method	DIN-rail mountable TH35 (EN 60715)	
Temperature range	0...+55 °C (storage temperature -40...+80 °C)	

## Dimension drawing



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## Notes

# INTELLIGENT POWER DISTRIBUTION

## Over current protection device



### MICO 4.6

4 channels

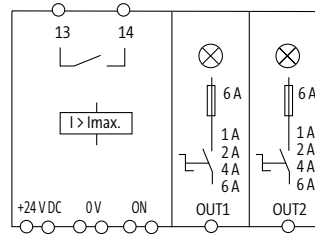
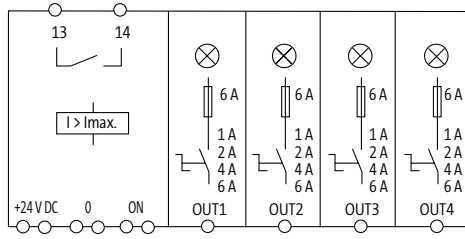


### MICO 2.6

2 channels



## Circuit diagram



Order Data	Art-No.
1 A, 2 A, 4 A, 6 A	9000-41034-0100600

Technical Data	Art-No.
Operating voltage	24 V DC (18...30 V DC)

Current adjustment	1 A, 2 A, 4 A, 6 A, by countersunk rotary switch, sealed
Inrush capacity	max. 20 mF (per channel)

Group alarm output	potential free alarm output 30 V AC/DC, 100 mA
Remote start (ON)	10...30 V DC

Impulse length	min. 20 ms
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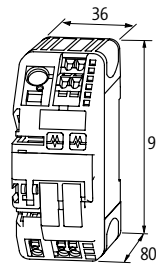
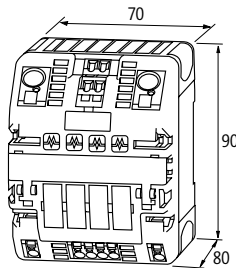
## General data

Connection	Spring clamp terminals
Input terminals	2 × 16 mm <sup>2</sup>
Output terminals	per output 1 × 4 mm <sup>2</sup>

Alarm terminals	2.5 mm <sup>2</sup>
Bridging concept	two sides, with spring clamp terminals or bridge set (max. 40 A)
Mounting method	DIN-rail mountable TH35 (EN 60715)

Temperature range	0...+55 °C (storage temperature -40...+80 °C)
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## Dimension drawing



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## Notes

# INTELLIGENT POWER DISTRIBUTION

## Over current protection device

### MICO 4.10

4 channels



### MICO 2.10

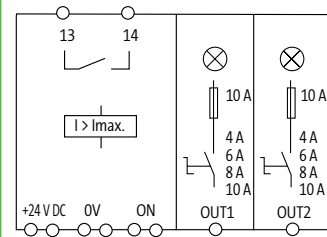
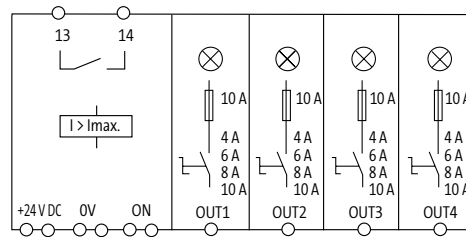
2 channels



Approvals:  



## Circuit diagram



## Order Data

4 A, 6 A, 8 A, 10 A

GL

## Art-No.

9000-41034-0401000

## Art-No.

9000-41042-0401000

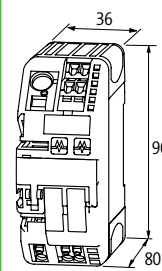
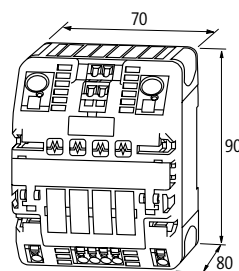
## Technical Data

Operating voltage	24 V DC (18...30 V DC)
Current adjustment	4 A, 6 A, 8 A, 10 A, by countersunk rotary switch, sealed
Inrush capacity	max. 20 mF (per channel)
Group alarm output	potential free alarm output 30 V AC/DC, 100 mA
Remote start (ON)	10...30 V DC
Impulse length	min. 20 ms

## General data

Connection	Spring clamp terminals
Input terminals	2 × 16 mm <sup>2</sup>   1 × 16 mm <sup>2</sup>
Output terminals	per output 1 × 4 mm <sup>2</sup>
Alarm terminals	2.5 mm <sup>2</sup>
Bridging concept	two sides, with spring clamp terminals or bridge set (max. 40 A)   one side, with spring clamp terminals or bridge set (max. 40 A)
Mounting method	DIN-rail mountable TH35 (EN 60715)
Temperature range	0...+55 °C (storage temperature -40...+80 °C)

## Dimension drawing



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## Notes

# INTELLIGENT POWER DISTRIBUTION

## Over current protection device

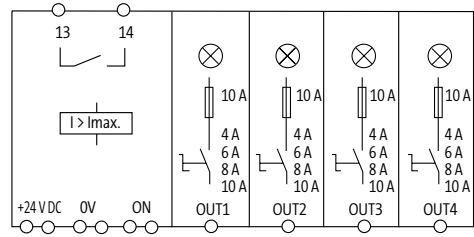
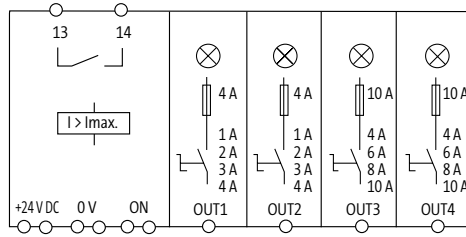
## MICO 4.4.10 ACTUATOR-SENSOR

## MICO 4.10 SPEED START

4 channels  
optimized start-up behavior



### Circuit diagram

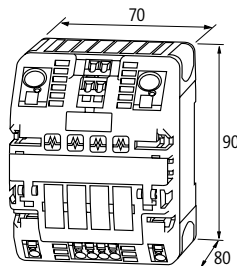


Order Data	Art-No.	Art-No.
1 A, 2 A, 3 A, 4 A; 4 A, 6 A, 8 A, 10 A	9000-41034-0101000	
4 A, 6 A, 8 A, 10 A		9000-41034-0401005

Technical Data		
Operating voltage	24 V DC (18...30 V DC)	
Current adjustment	1 A, 2 A, 3 A, 4 A; 4 A, 6 A, 8 A, 10 A, by countersunk rotary switch, sealed	4 A, 6 A, 8 A, 10 A, by countersunk rotary switch, sealed
Inrush capacity	max. 20 mF (per channel)	max. 30 mF (per channel)
Group alarm output	potential free alarm output 30 V AC/DC, 100 mA	
Remote start (ON)	10...30 V DC	
Impulse length	min. 20 ms	

General data	
Connection	Spring clamp terminals
Input terminals	2 × 16 mm <sup>2</sup>
Output terminals	per output 1 × 4 mm <sup>2</sup>
Alarm terminals	2.5 mm <sup>2</sup>
Bridging concept	two sides, with spring clamp terminals or bridge set (max. 40 A)
Mounting method	DIN-rail mountable TH35 (EN 60715)
Temperature range	0...+55 °C (storage temperature -40...+80 °C)

### Dimension drawing



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### Notes

## Over current protection device

– preset tripping current

Approvals:



### MICO BASIC 8.2

8 channels



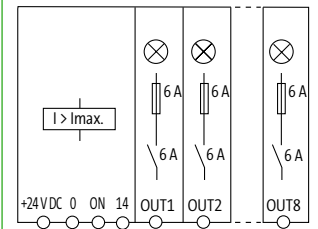
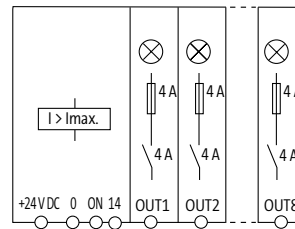
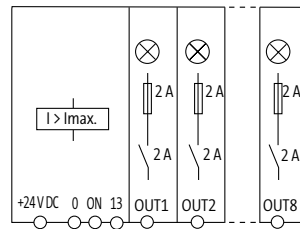
### MICO BASIC 8.4

8 channels

### MICO BASIC 8.6

8 channels

#### Circuit diagram

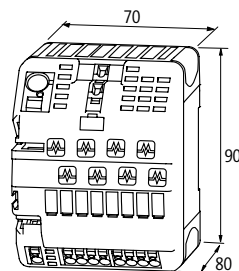


Order Data	Art-No.	Art-No.	Art-No.
2 A	9000-41068-0200000		
4 A		9000-41068-0400000	
6 A			9000-41068-0600000

Technical Data			
Operating voltage	24 V DC (18...30 V DC)		
Current adjustment	2 A	4 A	6 A
Group alarm output	max. 20 mA; high: all channels ON; low: not all channels ON		
Inrush capacity	max. 20 mF (per channel)		
Remote start (ON)	10...30 V DC		
Impulse length	min. 20 ms		

General data	
Input terminals	1 × 16 mm <sup>2</sup>
Output terminals	per output 1 × 4 mm <sup>2</sup>
Alarm terminals	2.5 mm <sup>2</sup>
Bridging concept	one side, with spring clamp terminals or bridge set (max. 40 A)
Temperature range	0...+55 °C (storage temperature -40...+80 °C)
Connection	Spring clamp terminals
Mounting method	DIN-rail mountable TH35 (EN 60715)

#### Dimension drawing



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#### Notes



# INTELLIGENT POWER DISTRIBUTION

Over current protection device

– preset tripping current



**MICO BASIC 4.2**

4 channels



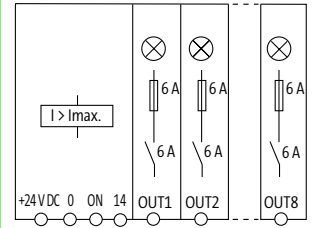
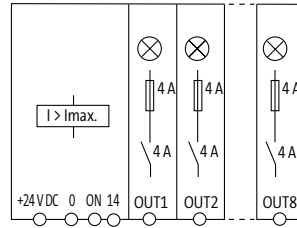
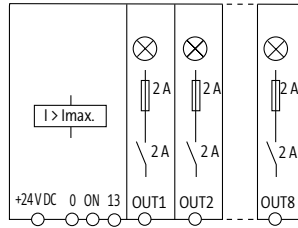
**MICO BASIC 4.4**

4 channels

**MICO BASIC 4.6**

4 channels

**Circuit diagram**

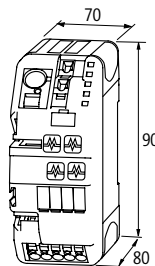


Order Data	Art-No.	Art-No.	Art-No.
2 A	<b>9000-41064-0200000</b>		
4 A		<b>9000-41064-0400000</b>	
6 A			<b>9000-41064-0600000</b>

Technical Data			
Operating voltage	24 V DC (18...30 V DC)		
Current adjustment	2 A	4 A	6 A
Inrush capacity	max. 20 mF (per channel)		
Group alarm output	max. 20 mA; high: all channels ON; low: not all channels ON		
Remote start (ON)	10...30 V DC		
Impulse length	min. 20 ms		

General data	
Connection	Spring clamp terminals
Input terminals	1 × 16 mm <sup>2</sup>
Output terminals	per output 1 × 4 mm <sup>2</sup>
Alarm terminals	2.5 mm <sup>2</sup>
Bridging concept	one side, with spring clamp terminals or bridge set (max. 40 A)
Mounting method	DIN-rail mountable TH35 (EN 60715)
Temperature range	0...+55 °C (storage temperature -40...+80 °C)

**Dimension drawing**



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**Notes**

# INTELLIGENT POWER DISTRIBUTION

Over current protection device

– preset tripping current

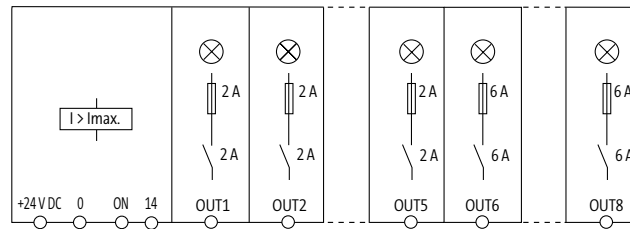
**MICO BASIC 5.2/3.6**

8 channels



Approvals:

## Circuit diagram



## Order Data

Art-No.

9000-41068-0200600

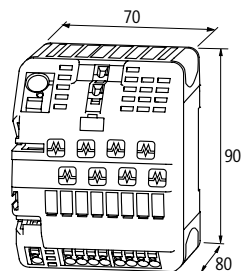
## Technical Data

Operating voltage	24 V DC (18...30 V DC)
Current adjustment	5 × 2 A; 3 × 6 A
Inrush capacity	max. 20 mF (per channel)
Group alarm output	max. 20 mA; high: all channels ON; low: not all channels ON
Remote start (ON)	10...30 V DC
Impulse length	min. 20 ms

## General data

Connection	Spring clamp terminals
Input terminals	1 × 16 mm <sup>2</sup>
Output terminals	per output 1 × 4 mm <sup>2</sup>
Alarm terminals	2.5 mm <sup>2</sup>
Bridging concept	one side, with spring clamp terminals or bridge set (max. 40 A)
Mounting method	DIN-rail mountable TH35 (EN 60715)
Temperature range	0...+55 °C (storage temperature -40...+80 °C)

## Dimension drawing



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## Notes

# INTELLIGENT POWER DISTRIBUTION

## Socket for glass tube fuses

## MICO FUSE 24 LED

8 channels



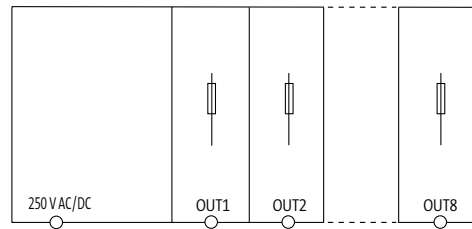
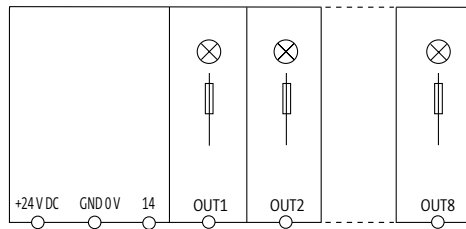
## MICO FUSE 250

8 channels

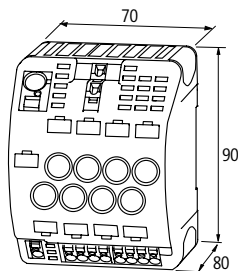


Approvals:

### Circuit diagram






Order Data	Art-No.	Art-No.
24 V DC	9000-41078-0600001	
max. 250 V AC/DC		9000-41078-0600002
Technical Data		
Operating voltage	24 V DC (18...30 V DC)	max. 250 V AC/DC
Operating current	max. 6 A (40 °C)	
Total current	max. 40 A	
Group alarm output	max. 20 mA; high: all channels ON; low: not all channels ON	-
General data		
Connection	Spring clamp terminals	
Input terminals	1 × 16 mm <sup>2</sup>	
Output terminals	1 × 0.5...4 mm <sup>2</sup>	
Alarm terminals	2.5 mm <sup>2</sup>	-
Mounting method	DIN-rail mountable TH35 (EN 60715)	
Temperature range	-25...+55 °C	
Dimension drawing		



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### Notes

Accessories			Art-No.
	<b>Bridge system</b>		
		Quantity: 1 piece	9000-41034-0000002
		Quantity: 10 pcs.	9000-41034-0000001
	<b>Shortened buttons</b>		
	1 set (4 pcs.)		9000-41034-0000003
	<b>Label plates</b>		
	KES 20 × 8 (white)	10 pieces/2 plates	996067
	KMR 5 × 10 (white)	(64 pieces/4 plates)	996078
	<b>Glass automotive fuse</b>		
	2 A (T)		9000-41078-0000002
	4 A (T)		9000-41078-0000004
	6 A (T)		9000-41078-0000006
	<b>Fuse cap</b>		
			9000-41078-0000010