

Optos - DK-SERIES

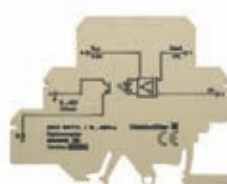
Mini-coupler DKO

- Coupling of digital sensor/actuator signals between PLC and process
- Inexpensive solution for adapting level and potential
- Low input power
- Screw connection system
- 6 mm width
- For mounting on TS 35

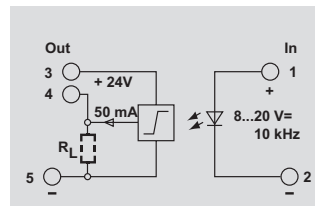
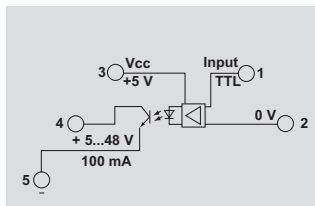
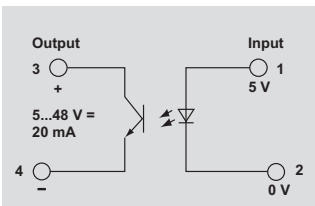
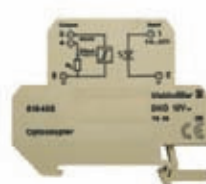
5 V DC



5 V TTL



12 V DC 10 kHz



Technical data

Control side

Rated voltage
Power rating
max. input frequency
Nominal auxiliary voltage
Status indicator

5 V DC $\pm 5\%$
50 mW
300 Hz
no
LED green

Load side

Nominal switching voltage
Nominal switching current
Voltage drop at max. load
Switch-on delay/Switch-off delay
Short-circuit-proof/Protective circuit

5...48 V DC
20 mA
 $\leq 1,6$ V
 $\leq 15 \mu\text{s}/\leq 70 \mu\text{s}$
no/diode

General data

Ambient temperature (operational)
Storage temperature
Approvals

-25 °C...+40 °C
-40 °C...+85 °C
CE;

Insulation coordination (EN 50 178)

Standards
Rated voltage
Rated impulse withstand voltage
Clearance and creepage distances for control side - load side
Surge category
Pollution severity

EN 50178
150 V
4.0 kV
 ≥ 4 mm
III
2

5 V TTL
50 μW
3 kHz
5 V
LED green

5...48 V DC
100 mA
 $\leq 1,6$ V
approx. 27 μs /approx. 35 μs
no/diode

-25 °C...+40 °C
-40 °C...+85 °C
CE;

EN 50178
300 V
6.0 kV
 ≥ 5.5 mm
III
2

8...20 V DC
max. 130 mW
max. 10 kHz
no
LED green

24 V DC $\pm 10\%$
50 mA
 ≤ 1 V
1 $\mu\text{s}/2.5 \mu\text{s}$
no/diode

-25 °C...+40 °C
-40 °C...+85 °C
CE;

EN 50178
300 V
6.0 kV
 ≥ 5.5 mm
III
2

Dimensions

Clamping range (rating- / min. / max.) mm²
Length x width x height mm

Screw connection

4 / 0.5 / 4
65 x 6 x 57

Screw connection

4 / 0.5 / 4
77 x 6 x 62

Screw connection

4 / 0.5 / 4
65 x 12 x 57

Note

Ordering data

Connection system

Screw connection

Type	(Qty.=1)	Order No.
DKO 35 5VDC		8018630000

Type	(Qty.=1)	Order No.
DKO DK5 5VTTL		8228650000

Type	(Qty.=1)	Order No.
DKO 35 12VDC 10KHZ		8184030000

Note

Input at bottom

Input at bottom

Input at bottom

Accessories

Note

End plate
AP DKT4 0687560000

End plate
AP DK 5 PA BE: 4036780000

End plate
AP DKT 4: 0687560000

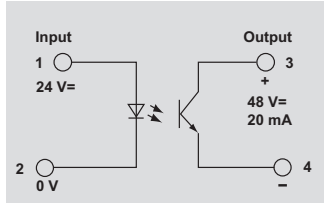
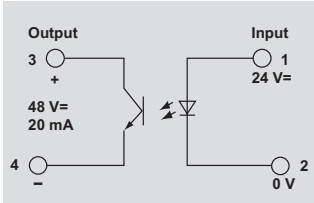
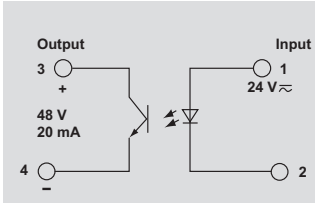
Mini-coupler DKO

- Coupling of digital sensor/actuator signals between PLC and process
- Inexpensive solution for adapting level and potential
- Low input power
- Screw connection system
- 6 mm width
- For mounting on TS 35

24 V UC

24 V DC 3 kHz

24 V DC 3 kHz



Technical data

Control side	
Rated voltage	24 V UC ±10 %
Power rating	280 mVA / 230 mW
max. input frequency	10 Hz at DC
Nominal auxiliary voltage	no
Status indicator	LED green
Load side	
Nominal switching voltage	5...48 V DC
Nominal switching current	20 mA
Voltage drop at max. load	≤ 1 V
Switch-on delay/Switch-off delay	≤ 15 ms bei DC/≤ 25 ms bei DC
Short-circuit-proof/Protective circuit	no/diode
General data	
Ambient temperature (operational)	-25 °C...+40 °C
Storage temperature	-40 °C...+85 °C
Approvals	CE;
Insulation coordination (EN 50 178)	
Standards	EN 50178
Rated voltage	300 V
Rated impulse withstand voltage	4.0 kV
Clearance and creepage distances for control side - load side	≥ 4 mm
Surge category	III
Pollution severity	2

Rated voltage	24 V UC ±10 %
Power rating	280 mVA / 230 mW
max. input frequency	10 Hz at DC
Nominal auxiliary voltage	no
Status indicator	LED green
Nominal switching voltage	5...48 V DC
Nominal switching current	20 mA
Voltage drop at max. load	≤ 1 V
Switch-on delay/Switch-off delay	≤ 15 ms bei DC/≤ 25 ms bei DC
Short-circuit-proof/Protective circuit	no/diode
Ambient temperature (operational)	-25 °C...+40 °C
Storage temperature	-40 °C...+85 °C
Approvals	CE;
Standards	EN 50178
Rated voltage	300 V
Rated impulse withstand voltage	4.0 kV
Clearance and creepage distances for control side - load side	≥ 4 mm
Surge category	III
Pollution severity	2

Rated voltage	24 V DC ±10%
Power rating	max. 360 mW
max. input frequency	3 kHz
Nominal auxiliary voltage	no
Status indicator	LED green
Nominal switching voltage	5...48 V DC
Nominal switching current	20 mA
Voltage drop at max. load	≤ 900 mV
Switch-on delay/Switch-off delay	approx. 50 µs/approx. 80 µs
Short-circuit-proof/Protective circuit	no/diode
Ambient temperature (operational)	-25 °C...+40 °C
Storage temperature	-40 °C...+85 °C
Approvals	CE;
Standards	EN 50178
Rated voltage	300 V
Rated impulse withstand voltage	4.0 kV
Clearance and creepage distances for control side - load side	≥ 4 mm
Surge category	III
Pollution severity	2

Rated voltage	24 V DC ±10%
Power rating	max. 360 mW
max. input frequency	3 kHz
Nominal auxiliary voltage	no
Status indicator	LED green
Nominal switching voltage	5...48 V DC
Nominal switching current	20 mA
Voltage drop at max. load	≤ 900 mV
Switch-on delay/Switch-off delay	approx. 50 µs/approx. 80 µs
Short-circuit-proof/Protective circuit	no/diode
Ambient temperature (operational)	-25 °C...+40 °C
Storage temperature	-40 °C...+85 °C
Approvals	CE;
Standards	EN 50178
Rated voltage	300 V
Rated impulse withstand voltage	4.0 kV
Clearance and creepage distances for control side - load side	≥ 4 mm
Surge category	III
Pollution severity	2

Dimensions	
Clamping range (rating- / min. / max.)	mm ²
Length x width x height	mm
Note	

Screw connection	
4 / 0.5 / 4	
65 x 6 x 57	
Note	

Screw connection	
4 / 0.5 / 4	
65 x 6 x 57	
Note	

Screw connection	
4 / 0.5 / 4	
65 x 6 x 57	
Note	

Ordering data

Connection system	
Screw connection	
Note	

Type	(Qty.=1)	Order No.
DKO 35 24VUC		8008150000
Input at bottom		

Type	(Qty.=1)	Order No.
DKO 35 24VDC 3KHZ E:U		8028300000
Input at bottom		

Type	(Qty.=1)	Order No.
DKO 35 24VDC 3KHZ E:O		8215640000
Input at top		

Accessories

Note	
End plate	AP DKT4 0687560000

Note	
End plate	AP DKT4 0687560000

Note	
End plate	AP DKT4 0687560000

Note	
End plate	AP DKT4 0687560000

Optos - DK-SERIES

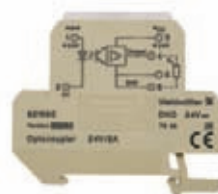
Mini-coupler DKO

- Coupling of digital sensor/actuator signals between PLC and process
- Inexpensive solution for adapting level and potential
- Low input power
- Screw connection system
- 6 mm width
- For mounting on TS 35

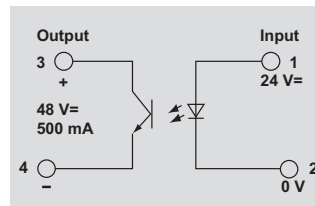
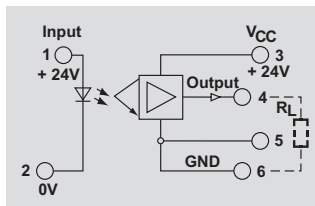
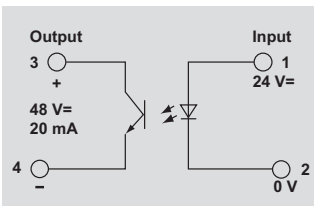
24 V DC 3 kHz



24 V DC 100 Hz



24 V DC 200 Hz



Technical data

Control side	24 V DC 3 kHz	24 V DC 100 Hz	24 V DC 200 Hz
Rated voltage	24 V DC ±10%	24 V DC ±10%	24 V DC ±10%
Power rating	max. 204 mW	max. 290 mW	145 mW
max. input frequency	3 kHz	100 Hz	200 Hz
Nominal auxiliary voltage	no	no	no
Status indicator	LED green	LED green	LED green
Load side			
Nominal switching voltage	5...48 V DC	24 V DC ±10%	5...48 V DC
Nominal switching current	20 mA	2 A	500 mA
Voltage drop at max. load	≤ 900 mV		≤ 800 mV
Switch-on delay/Switch-off delay	approx. 50 µs/approx. 80 µs	2 ms/7 ms	approx. 40 µs/approx. 65 µs
Short-circuit-proof/Protective circuit	no/diode	yes/varistor	no/diode
General data			
Ambient temperature (operational)	-25 °C...+40 °C	-25 °C...+40 °C	-25 °C...+40 °C
Storage temperature	-40 °C...+85 °C	-40 °C...+85 °C	-40 °C...+85 °C
Approvals	CE;	CE;	CE;
Insulation coordination (EN 50 178)			
Standards	EN 50178	EN 50178	EN 50178
Rated voltage	300 V	300 V	300 V
Rated impulse withstand voltage	4.0 kV	4.0 kV	4.0 kV
Clearance and creepage distances for control side - load side	≥ 4 mm	≥ 3 mm	≥ 4 mm
Surge category	III	III	III
Pollution severity	2	2	2

Dimensions	
Clamping range (rating- / min. / max.)	mm²
Length x width x height	mm
Note	

Screw connection	
4 / 0.5 / 4	
65 x 6 x 57	
Note	

Screw connection	
4 / 0.5 / 4	
65 x 12 x 57	
Note	

Screw connection	
4 / 0.5 / 4	
65 x 6 x 57	
Note	

Ordering data

Connection system	Type	(Qty.=1)	Order No.	Type	(Qty.=1)	Order No.	Type	(Qty.=1)	Order No.
Screw connection	DKO 35 24VDC 3KHZ E:U		8248790000	DKO 35 24VDC E:U		8181990000	DKO 35 24VDC E:U		8019590000
Note	Input at bottom			Input at bottom			Input at bottom		

Accessories

Note	End plate
	AP DKT4 0687560000

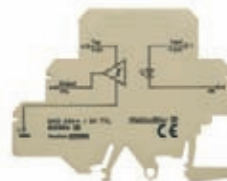
Mini-coupler DKO

- Coupling of digital sensor/actuator signals between PLC and process
- Inexpensive solution for adapting level and potential
- Low input power
- Screw connection system
- 6 mm width
- For mounting on TS 35

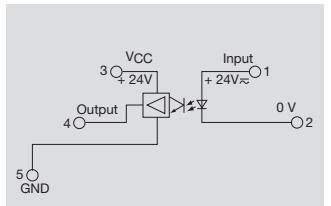
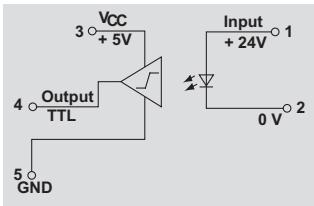
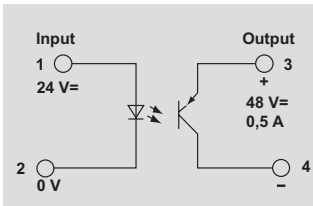
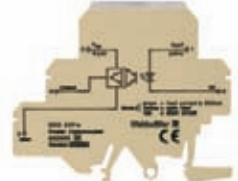
24 V DC 200 Hz



24 V DC 50 kHz



24 V UC



Technical data

Control side	
Rated voltage	24 V DC ±10%
Power rating	max. 145 mW
max. input frequency	200 Hz
Nominal auxiliary voltage	no
Status indicator	LED green
Load side	
Nominal switching voltage	5...48 Vdc
Nominal switching current	500 mA
Voltage drop at max. load	≤ 800 mV
Switch-on delay/Switch-off delay	approx. 40 µs/approx. 65 µs
Short-circuit-proof/Protective circuit	no/diode
General data	
Ambient temperature (operational)	-25 °C...+40 °C
Storage temperature	-40 °C...+85 °C
Approvals	CE;
Insulation coordination (EN 50 178)	
Standards	EN 50178
Rated voltage	300 V
Rated impulse withstand voltage	4.0 kV
Clearance and creepage distances for control side - load side	≥ 4 mm
Surge category	III
Pollution severity	2

Rated voltage	24 V DC ±10%
Power rating	max. 145 mW
max. input frequency	200 Hz
Nominal auxiliary voltage	no
Status indicator	LED green
Nominal switching voltage	5...48 Vdc
Nominal switching current	500 mA
Voltage drop at max. load	≤ 800 mV
Switch-on delay/Switch-off delay	approx. 40 µs/approx. 65 µs
Short-circuit-proof/Protective circuit	no/diode
Ambient temperature (operational)	-25 °C...+40 °C
Storage temperature	-40 °C...+85 °C
Approvals	CE;
Standards	EN 50178
Rated voltage	300 V
Rated impulse withstand voltage	4.0 kV
Clearance and creepage distances for control side - load side	≥ 4 mm
Surge category	III
Pollution severity	2

Rated voltage	24 V DC ±20 %
Power rating	max. 112 mW
max. input frequency	50 kHz
Nominal auxiliary voltage	no
Status indicator	LED green
Nominal switching voltage	5 VTTL
Nominal switching current	8 mA, fan out = 20 LS-TTL
Voltage drop at max. load	≤ 800 mV
Switch-on delay/Switch-off delay	1 µs/2.5 µs
Short-circuit-proof/Protective circuit	no/diode
Ambient temperature (operational)	-25 °C...+40 °C
Storage temperature	-25 °C...+85 °C
Approvals	CE;
Standards	EN 50178
Rated voltage	300 V
Rated impulse withstand voltage	4.0 kV
Clearance and creepage distances for control side - load side	≥ 5.5 mm
Surge category	III
Pollution severity	2

Rated voltage	24 V DC ±20 %
Power rating	max.: 220 mVA / 195 mW
max. input frequency	≤ 10 Hz
Nominal auxiliary voltage	no
Status indicator	LED *
Nominal switching voltage	24 V DC ±20%
Nominal switching current	2 A
Voltage drop at max. load	≤ 800 mV
Switch-on delay/Switch-off delay	2 ms/7 ms
Short-circuit-proof/Protective circuit	yes/
Ambient temperature (operational)	-25 °C...+50 °C
Storage temperature	-40 °C...+85 °C
Approvals	CE;
Standards	EN 50178
Rated voltage	300 V
Rated impulse withstand voltage	6.0 kV
Clearance and creepage distances for control side - load side	≥ 5.5 mm
Surge category	III
Pollution severity	2

Dimensions	
Clamping range (rating- / min. / max.)	mm ²
Length x width x height	mm
Note	

Screw connection	
Clamping range (rating- / min. / max.)	4 / 0.5 / 4
Length x width x height	65 x 6 x 57
Note	

Screw connection	
Clamping range (rating- / min. / max.)	4 / 0.5 / 4
Length x width x height	77 x 6 x 62
Note	

Screw connection	
Clamping range (rating- / min. / max.)	4 / 0.5 / 4
Length x width x height	77 x 6 x 62
Note	
* Status indicator: green = OK, yellow = partial short circuit, blinking red = short circuit	

Ordering data

Connection system	
Screw connection	
Note	

Type	(Qty.=1)	Order No.
DKO 35 24VDC E:O		8215630000
Note		
Input at top		

Type	(Qty.=1)	Order No.
DKO DK5 24VDC 50KHZ		8228640000
Note		
Input at top		

Type	(Qty.=1)	Order No.
DKO DK5 24VUC		8228630000
Note		
Input at bottom		

Accessories

Note	
End plate	AP DKT4 0687560000

Note	
End plate	AP DK 5 PA BE: 4036780000

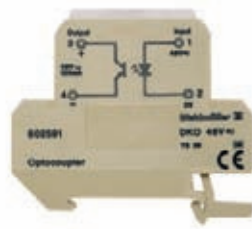
Note	
End plate	AP DK 5 PA BE: 4036780000

Optos - DK-SERIES

Mini-coupler DKO

- Coupling of digital sensor/actuator signals between PLC and process
- Inexpensive solution for adapting level and potential
- Low input power
- Screw connection system
- 6 mm width
- For mounting on TS 35

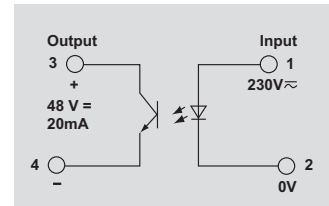
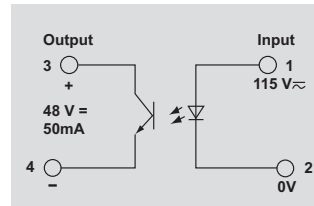
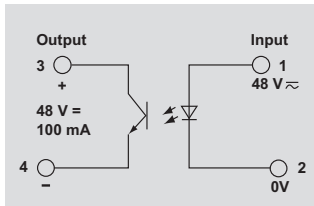
48 V UC



115 V UC



230 V UC



Technical data

Control side	48 V UC ±20 %	115 V UC +5 %/-15 %	230 V UC +5 %/-15 %
Rated voltage	48 V UC ±20 %	115 V UC +5 %/-15 %	230 V UC +5 %/-15 %
Power rating	max.: 155 mVA / 135 mW	390 mVA / 350 mW	395 mVA / 370 mW
max. input frequency	3 kHz	AC: 5 Hz / DC: 20 Hz	AC: 5 Hz / DC: 20 Hz
Nominal auxiliary voltage	no	no	no
Status indicator	LED green	LED green	LED green
Load side			
Nominal switching voltage	5...48 V DC	5...48 V DC	5...48 V DC
Nominal switching current	100 mA	50 mA	20 mA
Voltage drop at max. load	≤ 1,5 V	≤ 1,6 V	≤ 1,6 V
Switch-on delay/Switch-off delay	5 ms/15 ms	17.4 ms/27.4 ms	20 ms/20 ms
Short-circuit-proof/Protective circuit	no/diode	yes/diode	no/diode
General data			
Ambient temperature (operational)	-25 °C...+50 °C	-25 °C...+40 °C	-25 °C...+50 °C
Storage temperature	-40 °C...+85 °C	-40 °C...+85 °C	-40 °C...+85 °C
Approvals	CE;	CE;	CE;
Insulation coordination (EN 50 178)			
Standards	EN 50178	EN 50178	EN 50178
Rated voltage	300 V	300 V	300 V
Rated impulse withstand voltage	4.0 kV	6.0 kV	6.0 kV
Clearance and creepage distances for control side - load side	≥ 4 mm	≥ 5.5 mm	≥ 5.5 mm
Surge category	III	III	III
Pollution severity	2	2	2

Dimensions	
Clamping range (rating- / min. / max.)	mm²
Length x width x height	mm

Note	

Screw connection	
4 / 0.5 / 4	
65 x 6 x 57	

Note	

Screw connection	
4 / 0.5 / 4	
65 x 6 x 57	

Note	

Screw connection	
4 / 0.5 / 4	
65 x 6 x 57	

Note	

Ordering data

Connection system	
Screw connection	

Type	(Qty.=1)	Order No.
DKO 35 48VUC		8025910000

Type	(Qty.=1)	Order No.
DKO 35 115VUC		8077860000

Type	(Qty.=1)	Order No.
DKO 35 230VUC		8008160000

Note	
Input below	

Note	
Input below	

Note	
Input at bottom	

Note	
Input at bottom	

Accessories

Note	
End plate AP DK 4: 0687560000	

Note	
End plate AP DK 4: 0687560000	

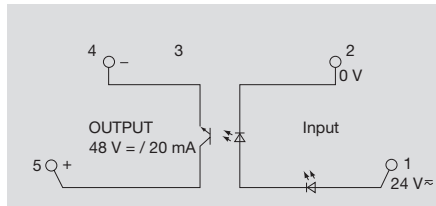
Note	
End plate AP DKT 4: 0687560000	

Note	
End plate AP DKT 4: 0687560000	

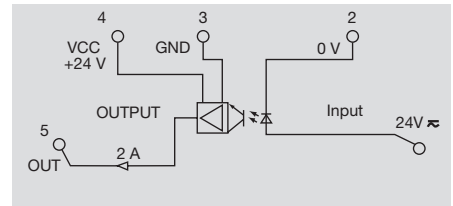
MiniConditioner MCZ O

- Universal interface between control and sensor/actuator
- Direct switching of load currents up to 2 A DC
- Tension clamp connection system
- Plug-in cross-connection
- Width 6mm

24 V UC



24 V UC / 24 V 2 A



Technical data

Control side

Rated voltage
Power rating
max. input frequency
Nominal auxiliary voltage
Status indicator

Load side

Nominal switching voltage
Nominal switching current
Voltage drop at max. load
Switch-on delay/Switch-off delay
Short-circuit-proof/Protective circuit

General data

Ambient temperature (operational)
Storage temperature
Approvals

Insulation coordination (EN 50 178)

Standards
Rated voltage
Rated impulse withstand voltage
Clearance and creepage distances for control side - load side
Surge category
Pollution severity

24 V DC ±20 %
230 mW / 280 mVA
AC: 5 Hz / DC: 10 Hz
no
LED green

5...48 V DC
20 mA
≤ 1 V
AC: 10 ms / DC: 20 ms / AC: 45 ms / DC: 40 ms
no / Integrated free-wheel diode

-25 °C...+50 °C
-40 °C...+85 °C
CSA;cURus;CE;

EN 50178
300 V
6.0 kV
≥ 5.5 mm
III
2

24 V DC ±20 %
195 mW / 220 mVA
AC: 10 Hz / DC: 30 Hz
no
LED *

24 V DC ±20%
2 A
/
yes /varistor

-25 °C...+40 °C
-40 °C...+60 °C
CSA;cURus;CE;

EN 50178
300 V
6.0 kV
≥ 5.5 mm
III
2

Dimensions

Clamping range (rating- / min. / max.) mm²
Length x width x height mm

Note

Tension clamp connection

1.5 / 0.5 / 1.5
91 x 6 x 64

Tension clamp connection

1.5 / 0.5 / 1.5
91 x 6 x 64

* Status indicator: green = OK,
yellow = partial short circuit, blinking red = short circuit

Ordering data

Connection system

Tension clamp connection

Type	Qty.	Order No.
MCZ O 24VUC	10	8365940000

Type	Qty.	Order No.
MCZ O 24VUC	10	8287730000

Note

Accessories

Note

End plate AP MCZ 1.5: 8389030000
for cross-connectors and markers - refer to MCZ Series accessories

End plate AP MCZ 1.5: 8389030000
for cross-connectors and markers - refer to MCZ Series accessories

Optos - MCZ-SERIES

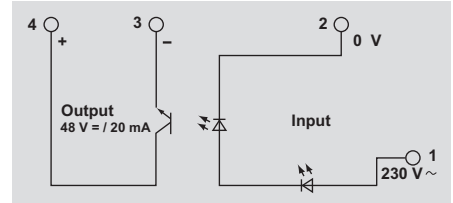
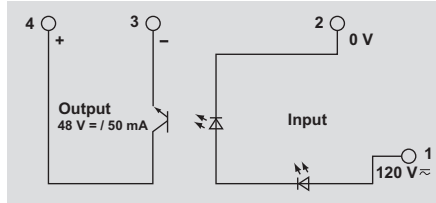
MiniConditioner MCZ O

- Universal interface between control and sensor/actuator
- Tension clamp connection system
- Plug-in cross-connection
- Width 6mm

120 V UC



230 V AC



Technical data

Control side

Rated voltage
Power rating
max. input frequency
Nominal auxiliary voltage
Status indicator

Load side

Nominal switching voltage
Nominal switching current
Voltage drop at max. load
Switch-on delay/Switch-off delay
Short-circuit-proof/Protective circuit

General data

Ambient temperature (operational)
Storage temperature
Approvals

Insulation coordination (EN 50 178)

Standards
Rated voltage
Rated impulse withstand voltage
Clearance and creepage distances for control side - load side
Surge category
Pollution severity

120 V UC +5/-15 %
350 mW / 400 mVA
AC: 5 Hz duty factor 1:2, DC: 20 Hz duty factor 1:2
no
LED green

5...48 V DC
50 mA
≤ 1,6 V
≤ 30 ms / ≤ 40 ms
no /Integrated free-wheel diode

-25 °C...+40 °C
-40 °C...+60 °C
CSA;cURus;CE;

EN 50178
300 V
6.0 kV
≥ 5.5 mm
III
2

230 V AC +5 %/ -15 %
2,3 VA
AC: 5 Hz duty factor 1:2
no
LED green

5...48 V DC
20 mA
≤ 1,6 V
≤ 30 ms / ≤ 40 ms
no /Integrated free-wheel diode

-25 °C...+40 °C
-40 °C...+85 °C
CSA;cURus;CE;

EN 50178
300 V
6.0 kV
≥ 5.5 mm
III
2

Dimensions

Clamping range (rating- / min. / max.) mm²
Length x width x height mm

Note

Tension clamp connection

1.5 / 0.5 / 1.5
91 x 6 x 64

Tension clamp connection

1.5 / 0.5 / 1.5
91 x 6 x 64

Ordering data

Connection system

Tension clamp connection

Type	Qty.	Order No.
MCZ O 120VUC	10	8421060000

Type	Qty.	Order No.
MCZ O 230VAC	10	8421380000

Note

Accessories

Note

End plate AP MCZ 1.5: 8389030000
for cross-connectors and markers - refer to MCZ Series accessories

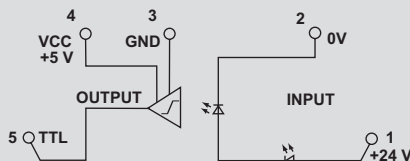
End plate AP MCZ 1.5: 8389030000
for cross-connectors and markers - refer to MCZ Series accessories

MiniConditioner MCZ O

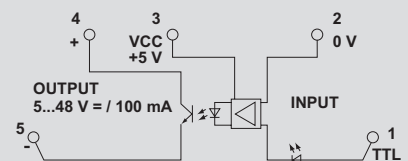
Module can be used as an universal interface:

- Between control and actuator, to convert signals from 24 Vdc to 5 VTTL
- Between control and actuator, to convert signals from 5 VTTL to 5...48 Vdc

24 V DC / 5 V TTL



5 V TTL / 5...48 V DC



Technical data

Control side	
Rated voltage	24 V DC $\pm 16\%$
Power rating	112 mW
max. input frequency	100 kHz duty factor 1:2, 50 kHz duty factor 1:10
Nominal auxiliary voltage	no
Status indicator	LED green
Load side	
Nominal switching voltage	5 V TTL(4.75...5.25 V)
Nominal switching current	8 mA, fan out = 20 LS-TTL
Voltage drop at max. load	
Switch-on delay/Switch-off delay	1 μ s (at 20 V DC) / 2.5 μ s (at 28 V DC)
Short-circuit-proof/Protective circuit	no /diode
General data	
Ambient temperature (operational)	-25 °C...+40 °C
Storage temperature	-40 °C...+60 °C
Approvals	CSA;cURus;CE;
Insulation coordination (EN 50 178)	
Standards	EN 50178
Rated voltage	300 V
Rated impulse withstand voltage	6.0 kV
Clearance and creepage distances for control side - load side	≥ 5.5 mm
Surge category	III
Pollution severity	2

Control side	
Rated voltage	24 V DC $\pm 16\%$
Power rating	112 mW
max. input frequency	100 kHz duty factor 1:2, 50 kHz duty factor 1:10
Nominal auxiliary voltage	no
Status indicator	LED green
Load side	
Nominal switching voltage	5 V TTL(4.75...5.25 V)
Nominal switching current	8 mA, fan out = 20 LS-TTL
Voltage drop at max. load	
Switch-on delay/Switch-off delay	1 μ s (at 20 V DC) / 2.5 μ s (at 28 V DC)
Short-circuit-proof/Protective circuit	no /diode
General data	
Ambient temperature (operational)	-25 °C...+40 °C
Storage temperature	-40 °C...+60 °C
Approvals	CSA;cURus;CE;
Insulation coordination (EN 50 178)	
Standards	EN 50178
Rated voltage	300 V
Rated impulse withstand voltage	6.0 kV
Clearance and creepage distances for control side - load side	≥ 5.5 mm
Surge category	III
Pollution severity	2

Control side	
Rated voltage	5 V TTL
Power rating	10 mW
max. input frequency	2.4 kHz
Nominal auxiliary voltage	5 V
Status indicator	LED green
Load side	
Nominal switching voltage	5...48 V DC
Nominal switching current	100 mA
Voltage drop at max. load	≤ 1.8 V
Switch-on delay/Switch-off delay	/
Short-circuit-proof/Protective circuit	no /diode
General data	
Ambient temperature (operational)	-25 °C...+50 °C
Storage temperature	-40 °C...+85 °C
Approvals	CSA;cURus;CE;
Insulation coordination (EN 50 178)	
Standards	EN 50178
Rated voltage	300 V
Rated impulse withstand voltage	6.0 kV
Clearance and creepage distances for control side - load side	≥ 5.5 mm
Surge category	III
Pollution severity	2

Dimensions	
Clamping range (rating- / min. / max.)	mm ²
Length x width x height	mm
Note	

Tension clamp connection	
Clamping range (rating- / min. / max.)	1.5 / 0.5 / 1.5
Length x width x height	91 x 6 x 64
Note	

Tension clamp connection	
Clamping range (rating- / min. / max.)	1.5 / 0.5 / 1.5
Length x width x height	91 x 6 x 64
Note	

Ordering data

Connection system	
Tension clamp connection	
Note	

Type	Qty.	Order No.
MCZ O 24VDC	10	8324610000
Note		

Type	Qty.	Order No.
MCZ O 5VTTL	10	8398940000
Note		

Accessories

Note	
------	--

End plate AP MCZ 1.5: 8389030000 for cross-connectors and markers - refer to MCZ Series accessories
--

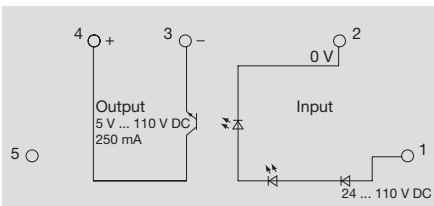
End plate AP MCZ 1.5: 8389030000 for cross-connectors and markers - refer to MCZ Series accessories
--

Optos - MCZ-TRAK-SERIES

MCZ O TRAK

- Module for rail industry applications
- Meets requirements of EN 50155
- Power fluctuations -30 %/+25 %
- Operating temperature -25...+70 °C (85 °C / 10 min.) as per EN 50155
- Condensation permissible

24 V DC TRAK



Technical data

Control side	
Rated voltage	24...110 V DC -30/+25%
Power rating	
max. input frequency	10 Hz
Nominal auxiliary voltage	no
Status indicator	LED green
Load side	
Nominal switching voltage	5...137.5 V DC
Nominal switching current	250 mA @ 50 °C ; 180 mA @ 70 °C
Voltage drop at max. load	≤ 1.7 V
Switch-on delay/Switch-off delay	10 ms / 50 ms
Short-circuit-proof/Protective circuit	/Varistor, integral free-wheel diode
General data	
Ambient temperature (operational)	+85°C for 10 minutes ; -25 °C...+70 °C
Storage temperature	-40 °C...+85 °C
Approvals	CE;
Insulation coordination (EN 50 178)	
Standards	EN 50178
Rated voltage	300 V
Rated impulse withstand voltage	6.0 kV
Clearance and creepage distances for control side - load side	≥ 5.5 mm
Surge category	III
Pollution severity	2

Dimensions		Tension clamp connection
Clamping range (rating- / min. / max.)	mm²	1.5 / 0.5 / 1.5
Length x width x height	mm	91 x 6 x 64

Note	
-------------	--

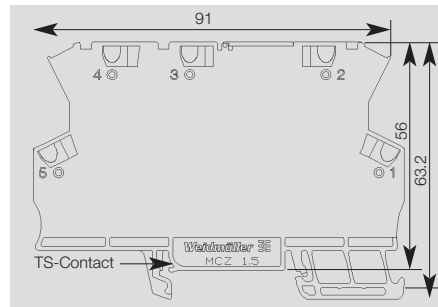
Ordering data

Connection system	Tension clamp connection	Type	Qty.	Order No.
		MCZ O TRAK 24.110VDC	10	8820710000
Note				

Accessories

Note	End plate AP MCZ 1.5: 8389030000 for cross-connectors and markers - refer to MCZ Series accessories
-------------	--

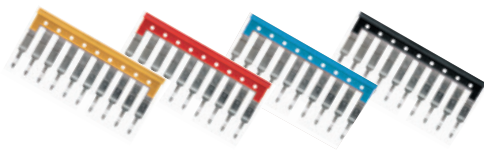
MCZ accessories



Ordering data

End plate

Type	Qty	Order No.
AP MCZ 1.5	50	8389030000



Ordering data

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

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



Ordering data

Marker

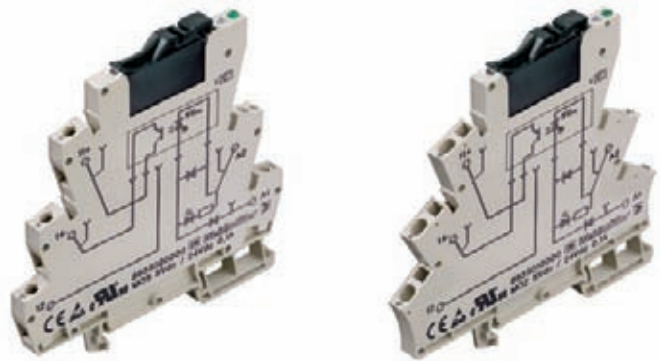
Type	Qty	Order No.
WS10/6	200	1060960000

Optos - MICROSERIES

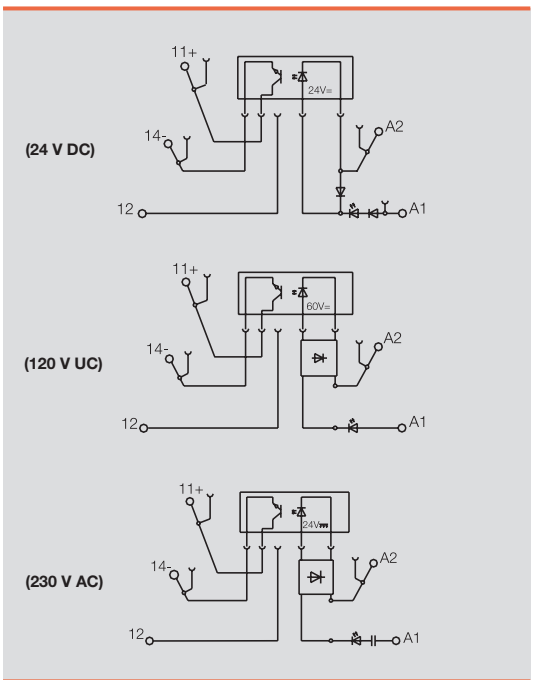
MOS / MOZ 3...48 V DC / 0.1 A

Universal interface between control and sensor/actuator

- Plug-in cross-connection ZQV 4N
- Interchangeable solid-state relay
- 6.1 mm wide
- Screw or tension clamp connection
- For mounting on TS 35



C



Load side	
Nominal switching voltage	3...48 V DC
Nominal switching current	0.1 A
Voltage drop at max. load	≤ 1 V
Leakage current	≤ 1 mA
Short-circuit-proof/Protective circuit	no/Integrated free-wheel diode
General data	
Ambient temperature (operational)	-25 °C...+50 °C
Storage temperature	-40 °C...+60 °C
Approvals	CE; cULus;
Insulation coordination (EN 50 178)	
Standards	EN 50178
Rated voltage	300 V
Rated impulse withstand voltage	4.0 kV
Clearance and creepage distances for control/load side	≥ 5.5 mm
Surge category	III
Pollution severity	2
Dimensions	
Clamping range (rating- / min. / max.)	mm ² 2.5 / 0.5 / 4
Length x width x height	mm 93 / 6.1 / 92
Note	
Cross-connectors and markers - refer to MICROSERIES accessories	

Ordering data	5 V DC / 24 V DC 0.1 A	24 V DC / 24 V DC 0,1 A	120 V UC / 24 V DC 0,1 A	230 V AC / 24 V DC 0,1 A
Control side				
Rated voltage	5 V DC ±20%	24 V DC ±20 %	120 V UC + 10 % / -15 %	230 V AC ±10%
Power rating	55 mW ±10 %	140 mW	340 mW / 0.4 VA	1.7 VA
max. input frequency	10 Hz	300 Hz	DC: 10 Hz / AC: 3 Hz	3 Hz
Switch-on delay	< 6,5 ms	35µs	< 6.5 ms	< 6.5 ms
Switch-off delay	< 10 ms	355µs	< 10 ms	< 10 ms

Ordering data	5 V DC / 24 V DC 0,1 A	24 V DC / 24 V DC 0,1 A	120 V UC / 24 V DC 0,1 A	230 V AC / 24 V DC 0,1 A
Complete module				
Screw connection Type	MOS 5Vdc / 24Vdc 0,1A	MOS 24Vdc / 24Vdc 0.1A	MOS 120Vuc / 24Vdc 0.1A	MOS 230Vac / 24Vdc 0.1A
Order No.	8633020000	8607340000	8607690000	8607710000
Tension clamp connection Type	MOZ 5Vdc / 24Vdc 0.1A	MOZ 24Vdc / 24Vdc 0,1A	MOZ 120Vuc / 24Vdc 0.1A	MOZ 230Vac / 24Vdc 0.1A
Order No.	8633010000	8607360000	8607730000	8607750000

Ordering data	5 V DC / 24 V DC 0,1 A	24 V DC / 24 V DC 0,1 A	120 V UC / 24 V DC 0,1 A	230 V AC / 24 V DC 0,1 A
Spare relay, pluggable				
Type	SSS Relais 5V/24V 0,1ADC	SSS Relais 24V/24V 0,1A dc	SSS Relais 60V/24V 0,1ADC	SSS Relais 24V/24V 0,1A dc
Order No.	4064320000	4061180000	4061230000	4061180000

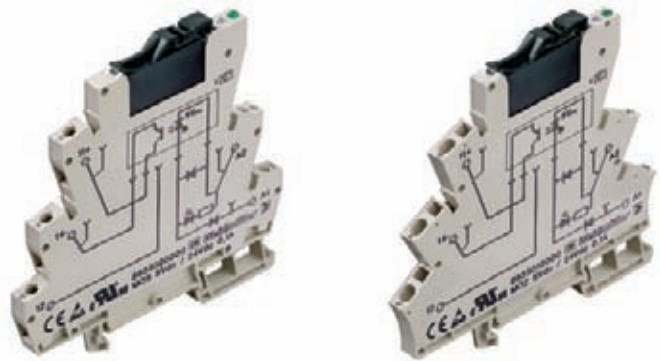
Note	5 V DC / 24 V DC 0,1 A	24 V DC / 24 V DC 0,1 A	120 V UC / 24 V DC 0,1 A	230 V AC / 24 V DC 0,1 A

Optos - MICROSERIES

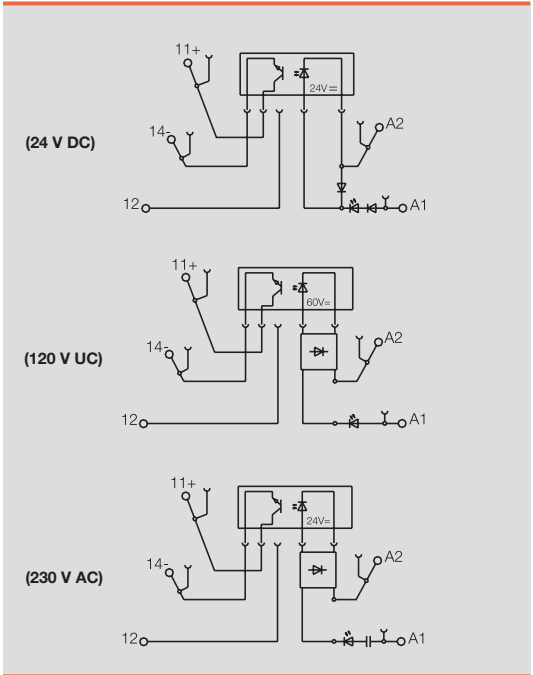
MOS / MOZ 3...33 V DC / 2 A

Universal interface between control and sensor/actuator

- Plug-in cross-connection ZQV 4N
- Interchangeable solid-state relay
- 6.1 mm wide
- Screw or tension clamp connection
- For mounting on TS 35



C



Load side	
Nominal switching voltage	3...33 V DC
Nominal switching current	2 A
Voltage drop at max. load	≤ 120 mV
Leakage current	≤ 1 mA
Short-circuit-proof/Protective circuit	no/Integrated free-wheel diode
General data	
Ambient temperature (operational)	-25 °C...+50 °C
Storage temperature	-40 °C...+60 °C
Approvals	CE; cULus;
Insulation coordination (EN 50 178)	
Standards	EN 50178
Rated voltage	300 V
Rated impulse withstand voltage	4.0 kV
Clearance and creepage distances for control/load side	≥ 5.5 mm
Surge category	III
Pollution severity	2
Dimensions	
Clamping range (rating- / min. / max.)	mm ² 2.5 / 0.5 / 4
Length x width x height	mm 93 / 6.1 / 92
Note	
Cross-connectors and markers - refer to MICROSERIES accessories	

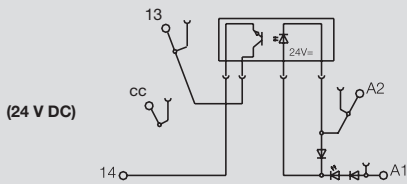
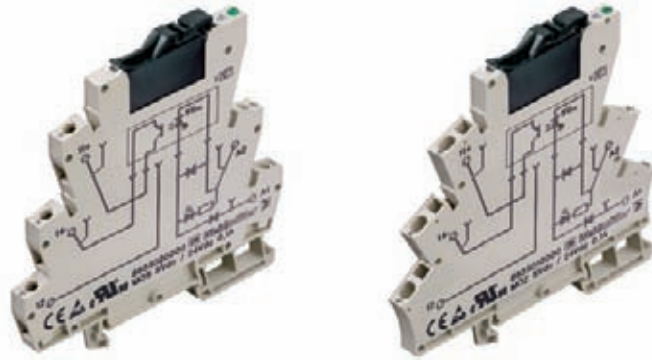
Ordering data	5 V DC / 24 V DC 2 A	24 V DC / 24 V DC 2 A	120 V UC / 24 V DC 2 A	230 V AC / 24 V DC 2 A
Control side				
Rated voltage	5 V DC ±20%	24 V DC ±20 %	120 V UC + 10 % / -15 %	230 V AC ±10%
Power rating	55 mW ±10 %	140 mW	340 mW / 0.4 VA	1.7 VA
max. input frequency	300 Hz	300 Hz	DC: 10 Hz / AC: 3 Hz	3 Hz
Switch-on delay	< 55 µs	< 55 µs	< 6.5 ms	< 6.5 ms
Switch-off delay	< 1 ms	< 1.2 ms	< 10 ms	< 10 ms

Ordering data	5 V DC / 24 V DC 2 A	24 V DC / 24 V DC 2 A	120 V UC / 24 V DC 2 A	230 V AC / 24 V DC 2 A
Complete module				
Screw connection	Type MOS 5Vdc / 24Vdc 2A	Type MOS 24Vdc / 24Vdc 2A	Type MOS 120Vuc / 24Vdc 2A	Type MOS 230Vac / 24Vdc 2A
	Order No. 8633000000	Order No. 8607350000	Order No. 8607700000	Order No. 8607720000
Tension clamp connection	Type MOZ 5Vdc / 24Vdc 2A	Type MOZ 24Vdc / 24Vdc 2A	Type MOZ 120Vuc / 24Vdc 2A	Type MOZ 230Vac / 24Vdc 2A
	Order No. 8632990000	Order No. 8607370000	Order No. 8607740000	Order No. 8607760000
Spare relay, pluggable				
	Type SSS Relais 5V/24V 2ADC	Type SSS Relais 24V/24V 2Acdc	Type SSS Relais 60V/24V 2Acdc	Type SSS Relais 24V/24V 2Acdc
	Order No. 4064310000	Order No. 4061190000	Order No. 4061200000	Order No. 4061190000
Note				

MOS / MOZ actuator version 3...33 V DC / 2 A

Universal interface between control and sensor/actuator

- Plug-in cross-connection ZQV 4N
- Interchangeable solid-state relay
- 6.1 mm wide
- Screw or tension clamp connection
- For mounting on TS 35
- 24 V DC actuator version:
Bridgeable, potential-free connection of actuators on output



Load side	
Nominal switching voltage	3...33 V DC
Nominal switching current	2 A
Voltage drop at max. load	≤ 120 mV
Short-circuit-proof/Protective circuit	no/Integrated free-wheel diode
General data	
Ambient temperature (operational)	-25 °C...+50 °C
Storage temperature	-40 °C...+60 °C
Approvals	CE; cULus;
Insulation coordination (EN 50 178)	
Standards	EN 50178
Rated voltage	300 V
Rated impulse withstand voltage	4.0 kV
Clearance and creepage distances for control/load side	≥ 5.5 mm
Surge category	III
Pollution severity	2

Dimensions	Screw connection	Tension clamp connection
Clamping range (rating- / min. / max.)	mm ² 2.5 / 0.5 / 4	1.5 / 0.5 / 2.5
Length x width x height	mm 93 / 6.1 / 92	94 / 6.1 / 91

Note Cross-connectors and markers - refer to MICROSERIES accessories

Ordering data

Control side

	24 V DC ACT
Rated voltage	24 V DC ±20 %
Power rating	140 mW ±10 %
max. input frequency	
Switch-on delay	< 55 µs
Switch-off delay	< 1,2 ms

Ordering data

Complete module

Screw connection	Type	MOS 24Vdc / 24Vdc ACT
	Order No.	8676250000
Tension clamp connection	Type	MOZ 24Vdc / 24Vdc ACT
	Order No.	8676230000

Ordering data

Spare relay, pluggable

Type	SSS Relais 24V/24V 2Acd
Order No.	4061190000

Note

Optos – MICROSERIES

Plug-in solid-state relay

SSS Relay

Switching current 100 mA

SSS Relay

Switching current 2 A

SSS Relay

Switching current 1 A



Technical data

Input	
Nominal control voltage	
Control voltage	min / max
Control current at $U_{IN} = 24\text{ V}$	
Drop-out voltage	
Control circuit resistance	
Output	
Switching voltage	
Switching/continuous current at $U_A > 5\text{ V DC}$	
Conducting-state voltage	
Insulation	
Test voltage between control/switching circuit	
Other data	
Operating temperature range	
Storage temperature range	
Weight	
Approvals	
* Ambient temperature 20 °C	
Wiring diagram	
For further data, see also http://em.tycoelectronics.com	

24 V DC	60 V DC
Control voltage	16 V DC / 30 V DC
Control current at $U_{IN} = 24\text{ V}$	7 mA ± 10 %
Drop-out voltage	10 V DC
Control circuit resistance	approx. 4 kΩ
Switching voltage	3 ... 48 V DC
Switching/continuous current at $U_A > 5\text{ V DC}$	100 mA DC
Conducting-state voltage	< 1 V DC
Test voltage between control/switching circuit	2.5 kV
Operating temperature range	-20 °C ... +60 °C
Storage temperature range	-40 °C ... +70 °C
Weight	3.65 g
Approvals	

24 V DC	60 V DC
Control voltage	18 V DC / 30 V DC
Control current at $U_{IN} = 24\text{ V}$	7 mA ± 10 %
Drop-out voltage	10 V DC
Control circuit resistance	approx. 3,2 kΩ
Switching voltage	3 ... 33 V DC
Switching/continuous current at $U_A > 5\text{ V DC}$	2 A DC
Conducting-state voltage	< 120 mV DC
Test voltage between control/switching circuit	2.5 kV
Operating temperature range	-20 °C ... +60 °C
Storage temperature range	-40 °C ... +70 °C
Weight	3.65 g
Approvals	

24 V DC	60 V DC
Control voltage	18 ... 30 V DC
Control current at $U_{IN} = 24\text{ V}$	3.1 mA ± 10 %
Drop-out voltage	20 V DC
Control circuit resistance	20 kΩ
Switching voltage	24 ... 240 V AC
Switching/continuous current at $U_A > 5\text{ V DC}$	1 A AC
Conducting-state voltage	< 1 V AC
Test voltage between control/switching circuit	2.5 kV
Operating temperature range	-20 °C ... +60 °C
Storage temperature range	-40 °C ... +70 °C
Weight	3.65 g
Approvals	

Ordering data

Nominal control voltage	Order No.
5 V DC	4064320000
24 V DC	4061180000
60 V DC	4061230000

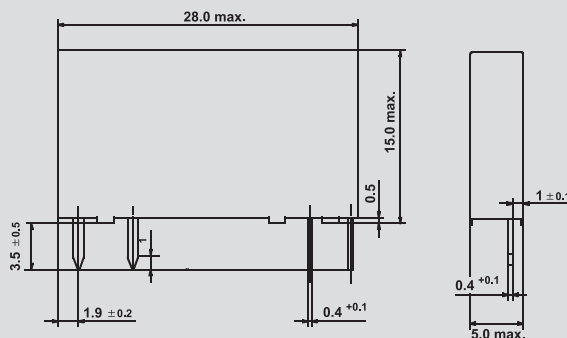
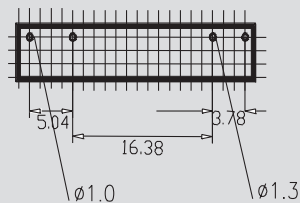
Type	Order No.
SSS Relais 5 V/24 V 0,1 A DC	4064320000
SSS Relais 24 V/24 V 0,1 A DC	4061180000
SSS Relais 60 V/24 V 0,1 A DC	4061230000

Type	Order No.
SSS Relais 5 V / 24 V 2 A DC	4064310000
SSS Relais 24 V/24 V 2 A DC	4061190000
SSS Relais 60 V/24 V 2 A DC	4061200000

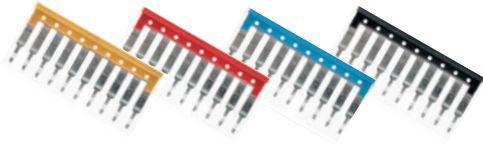
Type	Order No.
SSS Relais 24 V/230 V 1 A AC	4061210000
SSS Relais 60 V/230 V 1 A AC	4061220000

Dimensions

Printing details



Accessories



Plug-in cross-connection

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

General data – MICROSERIES

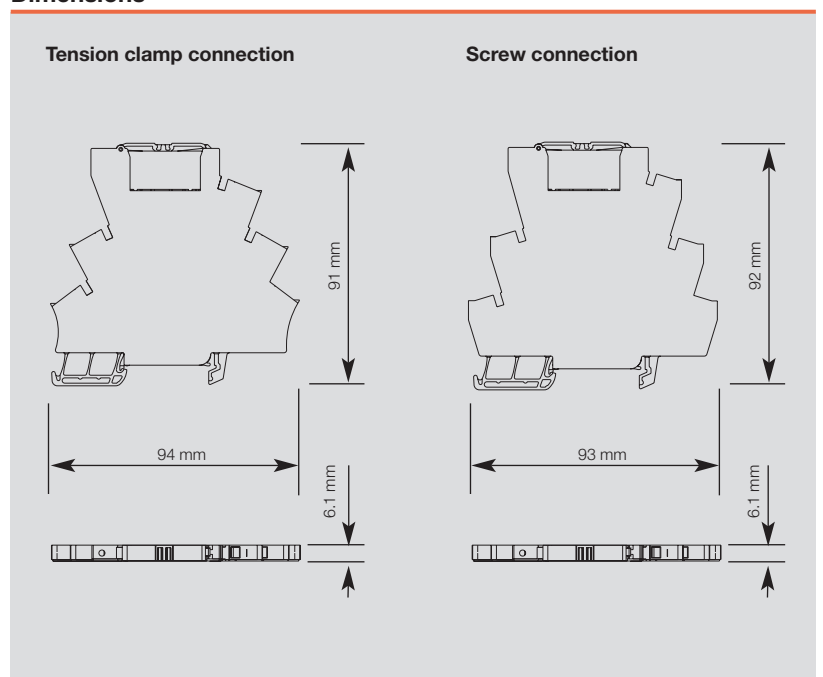
Technical data

Conductor		Tension clamp connection	Screw connection
Solid H07V-U	mm ²	0.5 ... 2.5	0.5 ... 4.0
Stranded H07V-K	mm ²	0.5 ... 2.5	0.5 ... 2.5
"f" with wire end ferrules to DIN 46228-1	mm ²	0.5 ... 1.5	0.5 ... 1.5
"f" with wire end ferrules with plastic collar	mm ²	0.5 ... 1.5	0.5 ... 1.5
Max. clamping range	mm ²	0.13 ... 2.5	0.13 ... 4.0
Plug gauge to IEC 60947-1	size	A 2	A 3
General technical data			
Nominal torque		-	0.6
Continuous current for 2-pole cross-connection	A	10	10
Continuous current for multi-pole cross-connection	A	10	10
Stripping length	mm	10	7
Ingress protection class		IP 20	IP 20
Housing material		Wemid	Wemid
UL 94 flammability rating		V-0	V-0
Nominal current	A	6	6
Nominal voltage	V	250	250

Other accessories

Type		Qty	Order No.
Base only			
MRZ 24VDC 1CO BASIS		10	8826000000
MRS 24VDC 1CO BASIS		10	8826010000
MRZ 120VUC 1CO BASIS		10	8826020000
MRS 120VUC 1CO BASIS		10	8826030000
MRZ 230VAC 1CO BASIS		10	8826040000
MRS 230VAC 1CO BASIS		10	8826050000
Markers			
WS 12/6	12 x 6 mm	200	1061160000
Labels, Lasermark			
LM MT 300 15/6 ge	484 labels / sheet	10	1686360000
Screwdriver			
SD 0,6 x 3,5 x 100		10	9008330000

Dimensions

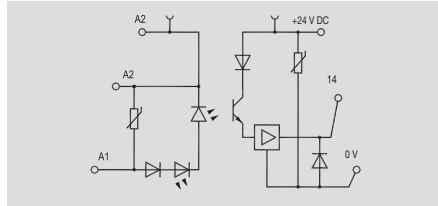


Optokoppler - MICROOPTO

For high switching frequency up to 100kHz

- Only 6 mm width
- Pluggable cross-connection
- Mount onto TS35

12...28 V DC 100 kHz



A special interior circuit in the opto module **MICROOPTO 100 kHz** ensures that rapidly transmitted signals are isolated from one another and that they can be transferred practically without delay. This allows switching frequencies up to 100 kHz to be achieved.

Comprehensive suppressor circuits safeguard the module against conducted transients and voltage spikes

Technical data

Control side

Rated voltage
Power rating
Making voltage
Dropout voltage
max. input frequency
Status indicator
Protective circuit

12 V DC...28 V DC
0,08...0,3 W
> 70 % U_{Nom}
< 12 V
100 kHz
LED green
Varistor, reverse polarity protection

Load side

Solid-state type
Nominal switching voltage
Nominal switching current
Voltage drop at max. load
Leakage current
Short-circuit-proof/Protective circuit
Switch-on delay/Switch-off delay
Continuous current
Pulse loading, max. current/Fuse
Load category

Bipolar transistor
24 V DC
50 mA
≤ 1,5 V
< 20 μ A>
no /Varistor, reverse polarity protection
< 1 μ s> / < 3 μ s
50 mA
0,6 A (20 ms)/
LC A

General data

Ambient temperature (operational)
Storage temperature
UL 94 flammability class
Humidity

-20 °C...+60 °C
-40 °C...+80 °C
V-0
5...95 % RH
 $T_{11} = 40^{\circ}$ C, no condensation
CE; cULus in preparation
EN 50178, IEC 62314, UL508

Approvals

Standards

Insulation coordination (EN 50 178)

Rated voltage
Rated impulse withstand voltage
Clearance and creepage distances for control side - load side
Surge category
Pollution severity

300 V
2,5 kV
> 3 mm
III
2

Dimensions

Clamping range (rating- / min. / max.) mm²
Length x width x height mm

Screw connection

2,5 / 0,5 / 4
90 x 6,1 x 98

Note

Ordering data

Connection system

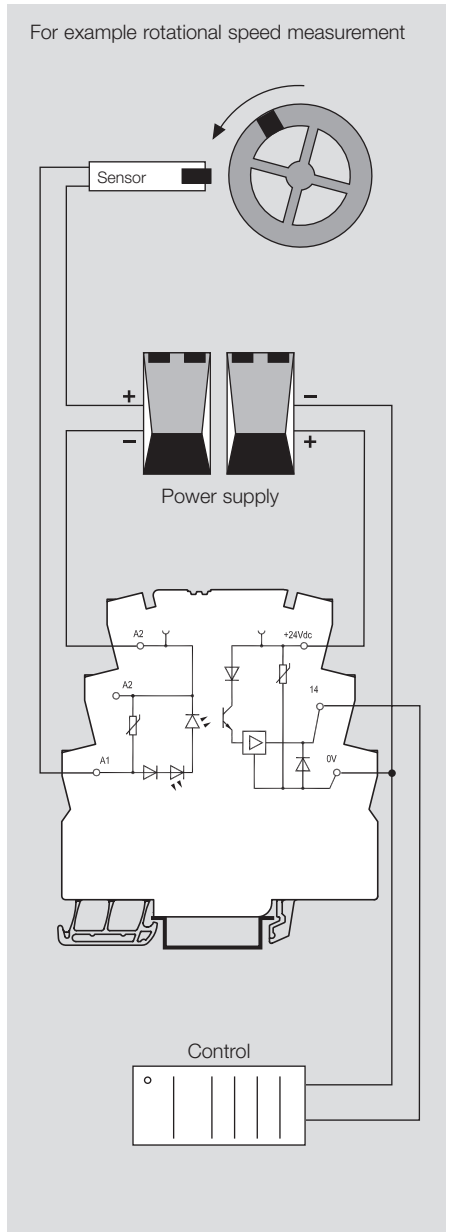
Screw connection

Type	Qty.	Order No.
MOS 12-28VDC 100kHz	1	8937990000

Note

Accessories

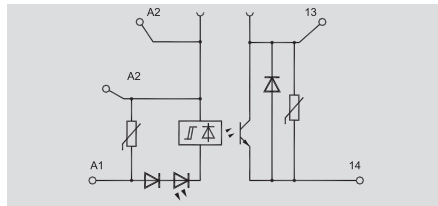
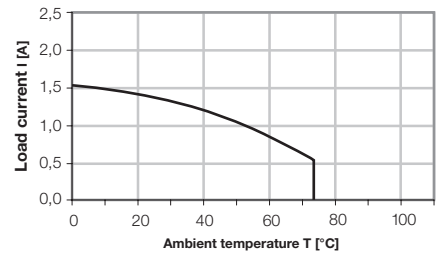
Note



For DC loads up to 300 V DC and 1 A

- Only 6 mm width
- Plug-in cross-connection
- Power Boost: 20 A / 20 ms, 5 A / 1 sec

12...300 V DC 1 A



The solid-state relay **MICROOPTO 300 V DC** has been developed as a switching amplifier for high inductive loads up to 300 V DC and 1 A in motor brakes and contactors.

A power boost in the load circuit compensates transient overloads (20 A for 20 ms / 5 A for 1 s) such as making or breaking spikes. Additional protective circuits counter higher overloads.

Technical data

Control side

Rated voltage
Power rating
Making voltage
Dropout voltage
max. input frequency
Status indicator
Protective circuit

24 V DC ±20 %
0,26 W
19,6 V DC
< 12 V
100 Hz
LED green
Varistor, reverse polarity protection

Load side

Solid-state type
Nominal switching voltage
Nominal switching current
Voltage drop at max. load
Leakage current
Short-circuit-proof/Protective circuit
Switch-on delay/Switch-off delay
Continuous current
Pulse loading, max. current/Fuse
Load category

MOS-FET
12...300 V DC
1 A
< 1 V
< 100 µA>
Powerboost 20 A / 20 ms, 5 A / 1 sec / varistor
< 0,2 ms / < 0,3 ms
1 A
27 A (10 ms)/
LC A

General data

Ambient temperature (operational)
Storage temperature
UL 94 flammability class
Humidity

-20 °C...+60 °C
-40 °C...+80 °C
V-0
5...95 % RH
T₁₁ = 40°C, no condensation
CE; cULus in preparation
EN 50178, IEC 62314, UL508

Insulation coordination (EN 50 178)

Rated voltage
Rated impulse withstand voltage
Clearance and creepage distances for control side - load side
Surge category
Pollution severity

300 V
2,5 kV
> 3 mm
III
2

Dimensions

Clamping range (rating- / min. / max.) mm²
Length x width x height mm

Screw connection

2,5 / 0,5 / 4
90 x 6,1 x 98

Note

Ordering data

Connection system

Screw connection

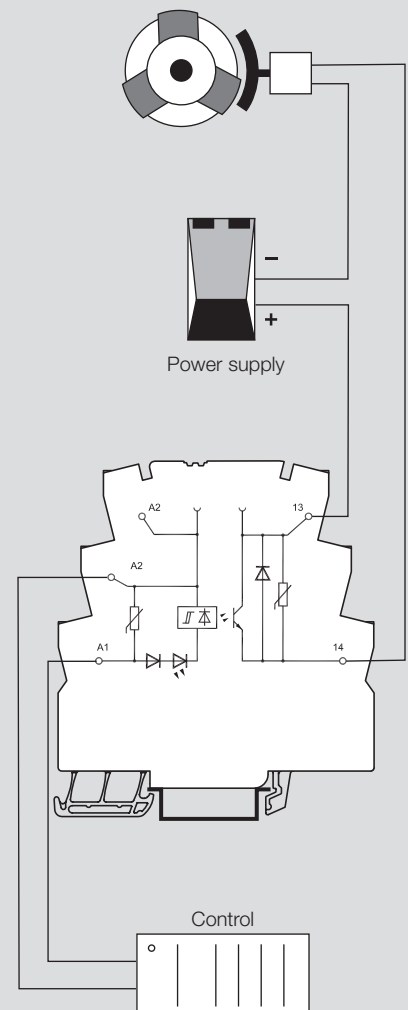
Type	Qty.	Order No.
MOS 24VDC/12-300VDC 1A	1	8937830000

Note

Accessories

Note

Example: motor brake

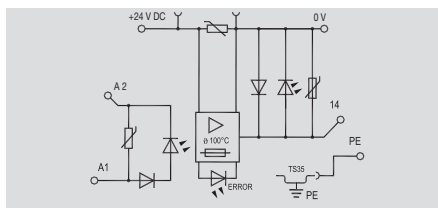
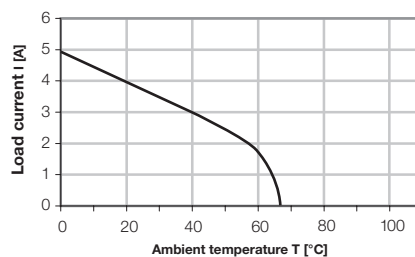


Solid-state relay - MICROOPTO

For direct connection of actuators up to 24 V DC, 2 A

- Only 6 mm width
- Pluggable cross-connection
- PE connection integrated in mounting rail
- Fault indication via LED

8...30 V DC 2 A



The solid-state relay **MICROOPTO ACTOR** has been especially designed as a switching amplifier for actuators up to 24 V DC and 2A with inductive loads such as solenoid valves and contactors. 3-wire actuators can be connected directly to the module.

This is short-circuit proof and protected against application-related transients and spikes by extensive protective circuitry.

Technical data

Control side	
Rated voltage	24 V DC ±20 %
Power rating	0.12 W
Making voltage	> 70 % U_{Nom}
Dropout voltage	< 12 V
max. input frequency	100 Hz
Status indicator	Fault indication LED red, status LED green
Protective circuit	Varistor, reverse polarity protection
Load side	
Solid-state type	Intelligent POWER MOS-FET
Nominal switching voltage	8...30 V DC
Nominal switching current	2 A
Voltage drop at max. load	< 100 mV
Leakage current	< 100 µA
Short-circuit-proof/Protective circuit	yes (12 h) /varistor
Switch-on delay/Switch-off delay	< 0.2 ms> /< 0.5 ms>
Continuous current	2 A
Pulse loading, max. current/Fuse	/
Load category	LC A
General data	
Ambient temperature (operational)	-20 °C...+60 °C
Storage temperature	-40 °C...+80 °C
UL 94 flammability class	V-0
Humidity	5...95 % RH
$T_{H1} = 40°C$, no condensation	
Approvals	CE; cULus in preparation
Standards	EN 50178, IEC 62314, UL508
Insulation coordination (EN 50 178)	
Rated voltage	300 V
Rated impulse withstand voltage	2.5 kV
Clearance and creepage distances for control side - load side	> 3 mm
Surge category	III
Pollution severity	2
Dimensions	
Clamping range (rating- / min. / max.)	mm ²
Length x width x height	mm
Note	

Screw connection	
2.5 / 0.5 / 4	
90 x 6.1 x 98	
Type	
MOS 24VDC/8-30VDC 2A	
Qty. 1	
Order No. 8937970000	
Note	

Ordering data

Connection system	
Screw connection	
Note	

Accessories

Note	

