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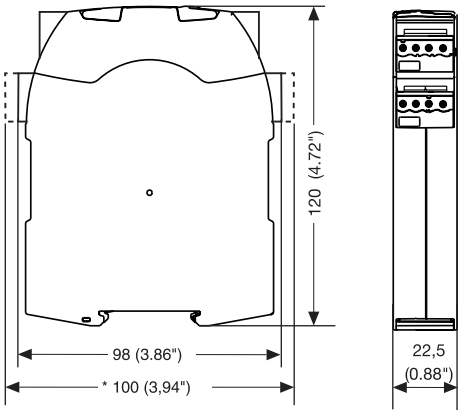
Dimensions in mm

*with spring-loaded terminals



Technical details

Order no. 750104 – 751104

See below for more order numbers

General	750104	750134	751104
Approvals	CCC, CE, EAC (Eurasian), KOSHA, TÜV, cULus Listed	CCC, CE, EAC (Eurasian), KOSHA, TÜV, cULus Listed	CCC, CE, EAC (Eurasian), KOSHA, TÜV, cULus Listed
Electrical data	**750104**	**750134**	**751104**
Supply voltage			
Voltage	24 V	48 - 240 V	24 V
Kind	DC	AC/DC	DC
Voltage tolerance	-15 %/+10 %	-15 %/+10 %	-15 %/+10 %
Output of external power supply (AC)	–	5 VA	–
Output of external power supply (DC)	2,5 W	2,5 W	2,5 W
Frequency range AC	–	50 - 60 Hz	–
Residual ripple DC	20 %	160 %	20 %
Duty cycle	100 %	100 %	100 %

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Electrical data	750104	750134	751104
Max. inrush current impulse			
Current pulse, A1	**0,5 A**	–	**0,5 A**
Pulse duration, A1	**5 ms**	–	**5 ms**
Inputs	**750104**	**750134**	**751104**
Number	**2**	**2**	**2**
Voltage at			
Input circuit DC	**24 V**	**24 V**	**24 V**
Start circuit DC	**24 V**	**24 V**	**24 V**
Feedback loop DC	**24 V**	**24 V**	**24 V**
Current at			
Input circuit DC	**50 mA**	**50 mA**	**50 mA**
Start circuit DC	**50 mA**	**50 mA**	**50 mA**
Feedback loop DC	**50 mA**	**50 mA**	**50 mA**
Max. inrush current impulse			
Current pulse, input circuit	**0,2 A**	**0,2 A**	**0,2 A**
Pulse duration, input circuit	**100 ms**	**100 ms**	**100 ms**
Current pulse, feedback loop	**0,2 A**	**0,2 A**	**0,2 A**
Pulse duration, feedback loop	**15 ms**	**15 ms**	**15 ms**
Current pulse, start circuit	**0,2 A**	**0,2 A**	**0,2 A**
Pulse duration, start circuit	**15 ms**	**15 ms**	**15 ms**
Min. input resistance at power-on	**110 Ohm**	**110 Ohm**	**110 Ohm**

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Inputs	750104	750134	751104
Max. overall cable resistance Rlmax			
Single-channel at UB DC	**30 Ohm**	**30 Ohm**	**30 Ohm**
Single-channel at UB AC	–	**30 Ohm**	–
Dual-channel without detection of shorts across contacts at UB DC	**60 Ohm**	**30 Ohm**	**60 Ohm**
Dual-channel without detection of shorts across contacts at UB AC	–	**30 Ohm**	–
Dual-channel with detection of shorts across contacts at UB DC	**30 Ohm**	**30 Ohm**	**30 Ohm**
Dual-channel with detection of shorts across contacts at UB AC	–	**30 Ohm**	–
Semiconductor outputs	**750104**	**750134**	**751104**
Number	**1**	**1**	**1**
Voltage	**24 V**	**24 V**	**24 V**
Current	**20 mA**	**20 mA**	**20 mA**
Relay outputs	**750104**	**750134**	**751104**
Number of output contacts			
Safety contacts (N/O), instantaneous	**3**	**3**	**3**
Auxiliary contacts (N/C)	**1**	**1**	**1**
Max. short circuit current IK	**1 kA**	**1 kA**	**1 kA**
Utilisation category			
In accordance with the standard	**EN 60947-4-1**	**EN 60947-4-1**	**EN 60947-4-1**
Utilisation category of safety contacts			
AC1 at	**240 V**	**240 V**	**240 V**
Min. current	**0,01 A**	**0,01 A**	**0,01 A**
Max. current	**6 A**	**6 A**	**6 A**
Max. power	**1500 VA**	**1500 VA**	**1500 VA**
DC1 at	**24 V**	**24 V**	**24 V**
Min. current	**0,01 A**	**0,01 A**	**0,01 A**
Max. current	**6 A**	**6 A**	**6 A**
Max. power	**150 W**	**150 W**	**150 W**

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Relay outputs	750104	750134	751104
Utilisation category of auxiliary contacts			
AC1 at	**240 V**	**240 V**	**240 V**
Min. current	**0,01 A**	**0,01 A**	**0,01 A**
Max. current	**6 A**	**6 A**	**6 A**
Max. power	**1500 VA**	**1500 VA**	**1500 VA**
DC1 at	**24 V**	**24 V**	**24 V**
Min. current	**0,01 A**	**0,01 A**	**0,01 A**
Max. current	**6 A**	**6 A**	**6 A**
Max. power	**150 W**	**150 W**	**150 W**
Utilisation category			
In accordance with the standard	**EN 60947-5-1**	**EN 60947-5-1**	**EN 60947-5-1**
Utilisation category of safety contacts			
AC15 at	**230 V**	**230 V**	**230 V**
Max. current	**5 A**	**3 A**	**5 A**
DC13 (6 cycles/min) at	**24 V**	**24 V**	**24 V**
Max. current	**5 A**	**4 A**	**5 A**
Utilisation category of auxiliary contacts			
AC15 at	**230 V**	**230 V**	**230 V**
Max. current	**5 A**	**3 A**	**5 A**
DC13 (6 cycles/min) at	**24 V**	**24 V**	**24 V**
Max. current	**5 A**	**4 A**	**5 A**
Utilisation category in accordance with UL			
Voltage	**240 V AC G.U. (same polarity)**	**240 V AC G.U. (same polarity)**	**240 V AC G.U. (same polarity)**
With current	**6 A**	**6 A**	**6 A**
Voltage	**24 V DC G. U.**	**24 V DC G. U.**	**24 V DC G. U.**
With current	**6 A**	**6 A**	**6 A**
External contact fuse protection, safety contacts			
In accordance with the standard	**EN 60947-5-1**	**EN 60947-5-1**	**EN 60947-5-1**
Max. melting integral	**260 A²s**	**66 A²s**	**260 A²s**
Blow-out fuse, quick	**10 A**	**6 A**	**10 A**
Blow-out fuse, slow	**6 A**	**4 A**	**6 A**
Blow-out fuse, gG	**10 A**	**6 A**	**10 A**
Circuit breaker 24V AC/DC, characteristic B/C	**6 A**	**4 A**	**6 A**

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Relay outputs	750104	750134	751104
External contact fuse protection, auxiliary contacts			
Max. melting integral	**160 A²s**	**66 A²s**	**160 A²s**
Blow-out fuse, quick	**10 A**	**6 A**	**10 A**
Blow-out fuse, slow	**6 A**	**4 A**	**6 A**
Blow-out fuse, gG	**6 A**	**6 A**	**6 A**
Circuit breaker 24 V AC/DC, characteristic B/C	**6 A**	**4 A**	**6 A**
Contact material	**AgCuNi + 0,2 µm Au**	**AgCuNi + 0,2 µm Au**	**AgCuNi + 0,2 µm Au**
Conventional thermal current while loading several contacts	**750104**	**750134**	**751104**
Ith per contact at UB AC; AC1: 240 V, DC1: 24 V			
Conv. therm. current with 1 contact	–	**6 A**	–
Conv. therm. current with 2 contacts	–	**6 A**	–
Conv. therm. current with 3 contacts	–	**4,5 A**	–
Ith per contact at UB DC; AC1: 240 V, DC1: 24 V			
Conv. therm. current with 1 contact	**6 A**	**6 A**	**6 A**
Conv. therm. current with 2 contacts	**6 A**	**6 A**	**6 A**
Conv. therm. current with 3 contacts	**5 A**	**4,5 A**	**5 A**

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Times	750104	750134	751104
Switch-on delay			
With automatic start typ.	**170 ms**	**170 ms**	**170 ms**
With automatic start max.	**300 ms**	**300 ms**	**300 ms**
With automatic start after power on typ.	**350 ms**	**350 ms**	**350 ms**
With automatic start after power on max.	**600 ms**	**600 ms**	**600 ms**
With manual start typ.	**40 ms**	**40 ms**	**40 ms**
With monitored start with rising edge typ.	**35 ms**	**35 ms**	**35 ms**
With monitored start with rising edge max.	**50 ms**	**50 ms**	**50 ms**
With monitored start with falling edge typ.	**55 ms**	**55 ms**	**55 ms**
With monitored start with falling edge max.	**70 ms**	**70 ms**	**70 ms**
Delay-on de-energisation			
With E-STOP typ.	**10 ms**	**10 ms**	**10 ms**
With E-STOP max.	**20 ms**	**20 ms**	**20 ms**
With power failure typ.	**40 ms**	**40 ms**	**40 ms**
With power failure max.	**80 ms**	**80 ms**	**80 ms**
Recovery time at max. switching frequency 1/s			
After E-STOP	**100 ms**	**50 ms**	**100 ms**
After power failure	**100 ms**	**100 ms**	**100 ms**
Waiting period with a monitored start			
With rising edge	**120 ms**	**120 ms**	**120 ms**
With falling edge	**250 ms**	**150 ms**	**250 ms**
Min. start pulse duration with a monitored start			
With rising edge	**30 ms**	**30 ms**	**30 ms**
With falling edge	**100 ms**	**100 ms**	**100 ms**
Supply interruption before de-energisation	**20 ms**	**20 ms**	**20 ms**
Simultaneity, channel 1 and 2 max.	∞	∞	∞
Environmental data	**750104**	**750134**	**751104**
Climatic suitability	**EN 60068-2-78**	**EN 60068-2-78**	**EN 60068-2-78**
Ambient temperature			
Temperature range	**-10 - 55 °C**	**-10 - 55 °C**	**-10 - 55 °C**

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Environmental data	750104	750134	751104
Storage temperature			
Temperature range	-40 - 85 °C	-40 - 85 °C	-40 - 85 °C
Climatic suitability			
Humidity	93 % r. h. at 40 °C	93 % r. h. at 40 °C	93 % r. h. at 40 °C
Condensation during operation	Not permitted	Not permitted	Not permitted
EMC	EN 60947-5-1, EN 61000-6-2, EN 61000-6-4, EN 61326-3-1	EN 60947-5-1, EN 61000-6-2, EN 61000-6-4, EN 61326-3-1	EN 60947-5-1, EN 61000-6-2, EN 61000-6-4, EN 61326-3-1
Vibration			
In accordance with the standard	EN 60068-2-6	EN 60068-2-6	EN 60068-2-6
Frequency	10 - 55 Hz	10 - 55 Hz	10 - 55 Hz
Amplitude	0,35 mm	0,35 mm	0,35 mm
Airgap creepage			
In accordance with the standard	EN 60947-1	EN 60947-1	EN 60947-1
Overvoltage category	III / II	III / II	III / II
Pollution degree	2	2	2
Rated insulation voltage	250 V	250 V	250 V
Rated impulse withstand voltage	4 kV	4 kV	4 kV
Protection type			
Mounting area (e.g. control cabinet)	IP54	IP54	IP54
Housing	IP40	IP40	IP40
Terminals	IP20	IP20	IP20
Mechanical data	**750104**	**750134**	**751104**
Mounting position	Any	Any	Any
Mechanical life	10,000,000 cycles	10,000,000 cycles	10,000,000 cycles
Material			
Bottom	PC	PC	PC
Front	PC	PC	PC
Top	PC	PC	PC
Connection type	Screw terminal	Screw terminal	Spring-loaded terminal
Mounting type	plug-in	plug-in	plug-in

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Mechanical data	750104	750134	751104
Conductor cross section with screw terminals			
1 core flexible	**0,25 - 2,5 mm², 24 - 12 AWG**	**0,25 - 2,5 mm², 24 - 12 AWG**	–
2 core with the same cross section, flexible with crimp connectors, no plastic sleeve	**0,25 - 1 mm², 24 - 16 AWG**	**0,25 - 1 mm², 24 - 16 AWG**	–
2 core with the same cross section, flexible without crimp connectors or with TWIN crimp connectors	**0,2 - 1,5 mm², 24 - 16 AWG**	**0,2 - 1,5 mm², 24 - 16 AWG**	–
Torque setting with screw terminals	**0,5 Nm**	**0,5 Nm**	–
Conductor cross section with spring-loaded terminals: Flexible with/without crimp connector	–	–	**0,2 - 2,5 mm², 24 - 12 AWG**
Spring-loaded terminals: Terminal points per connection	–	–	**2**
Stripping length with spring-loaded terminals	–	–	**9 mm**
Dimensions			
Height	**98 mm**	**98 mm**	**100 mm**
Width	**22,5 mm**	**22,5 mm**	**22,5 mm**
Depth	**120 mm**	**120 mm**	**120 mm**
Weight	**190 g**	**210 g**	**190 g**

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Supplementary data

The PFH value depends on the switching frequency and the load on the relay output.
If the service life graphs are not accessible, the stated PFH value can be used irrespective of the switching frequency and the load, as the PFH value already considers the relay's B10d value as well as the failure rates of the other components.

Service life graph

The service life graphs indicate the number of cycles from which failures due to wear must be expected. The wear is mainly caused by the electrical load; the mechanical load is negligible.

Unit types with UB 24 VDC

- U_B: 24 VDC; Order no. 750104, 751104, 751184

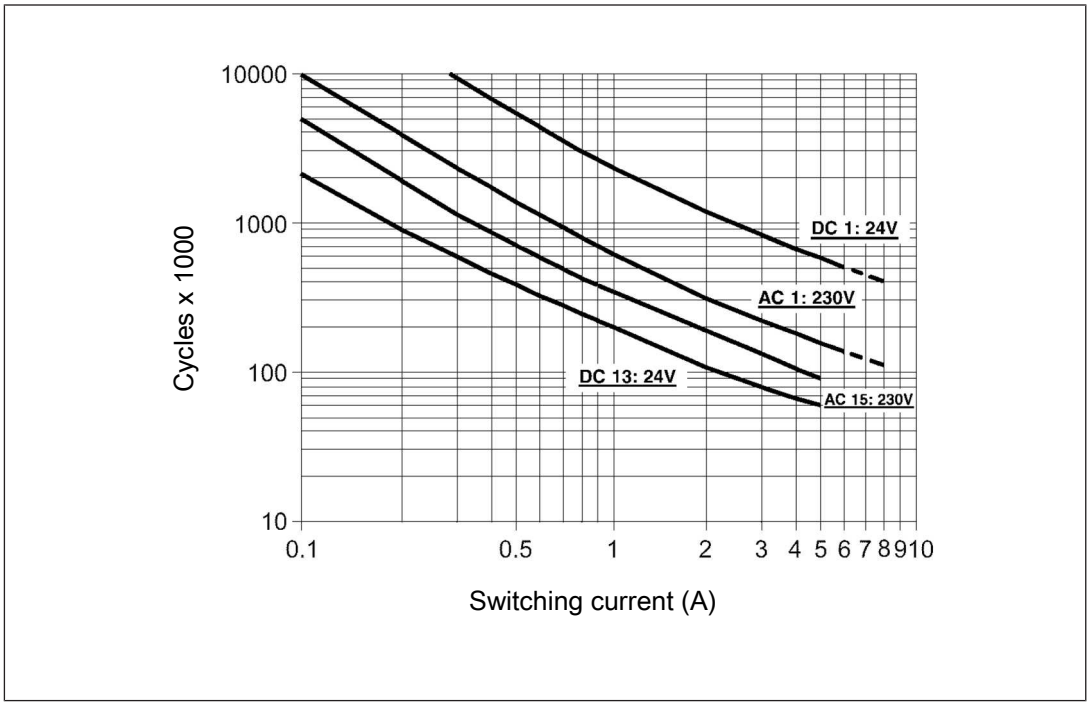

Fig.: Service life graphs at 24 VDC and 230 VAC