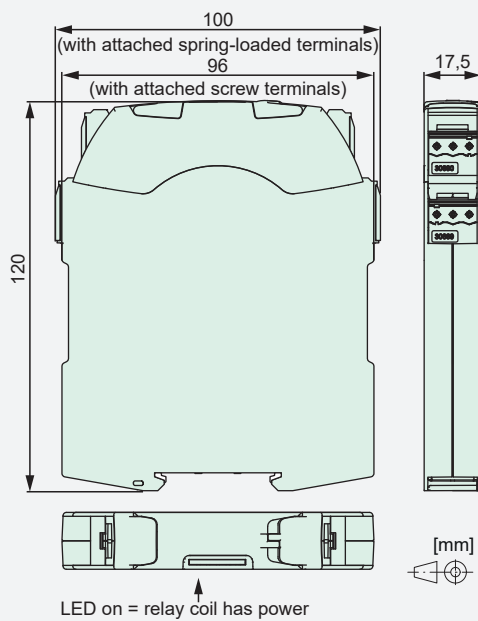




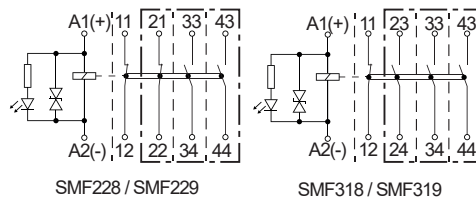
Features

- Relay module with 4-pole relay with forcibly guided contacts according to IEC 61810-3, application type A
- For mounting on 35 mm mounting rail
- Protective separation (see insulation data)
- Contact mounting: SMF228/229 2 NO + 2 NC
SMF318/319 3 NO + 1 NC
- Switching current max. 8 A
- Switching voltage: 250 V AC/DC
- Power consumption: 0,8 ... 1,25 W
- Overvoltage protection
- With spring terminals (SMF229/319)
- With screw terminals (SMF228/318)
- Applications: Access control, interfaces, elevators, escalators, transportation, robots, machine tools and railway applications

Dimensions



Circuit diagram



Insulation data

Basic insulation	at 250 VAC
Air and creepage distance	>2,5 mm
Test voltage	2500 V _{rms} / 1 min
Double or reinforced insulation	at 250 VAC
Air and creepage distance	>5,5 mm
Test voltage	4000 V _{rms} / 1 min
Test voltage: open contact	1500 V _{rms} / 1 min
Pollution degree	2
Overvoltage category	III

Additional data

Mechanical lifetime	>10 x 10 ⁶ operations
Switching frequency mechanical	max. 15 Hz
Response time (NO closed)	typ. 12 ms
Drop-out time* (NC closed)	typ. 5 ms
Bounce time NO	typ. 1,5 ms
Bounce time NC	typ. 15 ms
Shock resistance 16 ms	NO > 14g / NC > 4g
Vibration resistance (10-200 Hz)	NO > 6g / NC > 4g
Short circuit resistance contacts NO with pre-fuse	1000 A SCPD 10 A gG / gL
Short circuit resistance contacts NC with pre-fuse	1000 A SCPD 6 A gG / gL
Ambient temperature	-40°C ... +55°C
Thermal resistance	60 K/W
Weight	approx. 110 g
Mounting position	any
Protection class	IP20
Connection data Screw terminal:	
- Cross sections for wire:	0,2 - 2,5 mm ² / AWG 24 - 12
- Cross sections for braid:	0,2 - 2,5 mm ² / AWG 24 - 12
- Tightening torque:	0,6 Nm
Connection data spring terminal:	
- Cross sections for wire:	0,2 - 2,0 mm ² / AWG 24 - 14
- Cross sections for braid:	0,2 - 2,5 mm ² / AWG 24 - 12

*without coil wiring

Tests, regulations, standards

Approvals	cULus
UL File	E188953
Standards	EN 50178, IEC 61810-1, IEC 61810-3, UL 508

Options, Accessories

none available

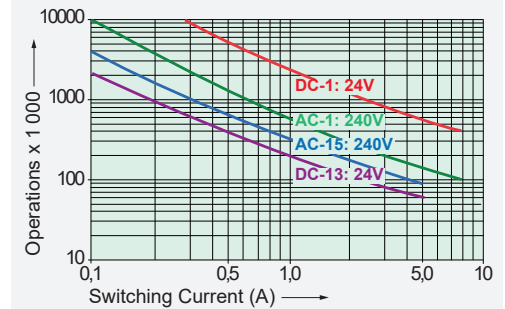
Mounting instructions

Mounting on 35 mm mounting rail (IEC 60715)

Product key

SMF	3	1	8	24VDC
Type designation	Number of NO contacts	Number of NC contacts	Connection type: 8-screw terminal, 9-spring terminal	Nominal voltage

Contact life for NO contact



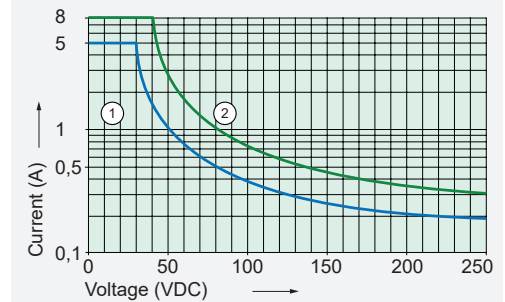
Max. switching capacity (IEC 61810-1 / UL 508)

AC-1:	240 V / 8 A	B300
AC-15:	240 V / 5 A	R300
DC-1:	24 V / 8 A	
DC-13:	24 V / 5 A	

Maximum continuous current per contact at load of:

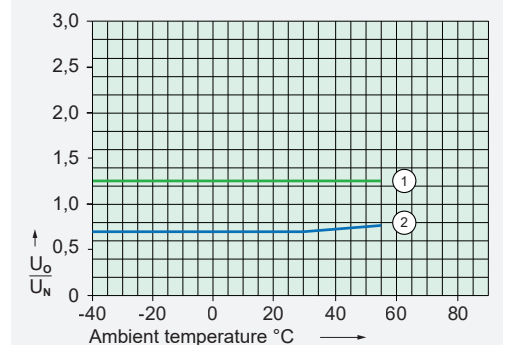
1 contact	8 A
2 contacts	8 A
3 contacts	6 A

Contact load limit curve (DC)



- 1) Inductive load L/R 40 ms
- 2) Resistive load

Operating voltage range



- 1) Max. excitation voltage with contact current ≤ 5 A
 - 2) Min. excitation voltage without previous operation
- test conditions:
- Duty cycle 100%

Contact data

Contact material	AgCuNi + 0,2 ... 0,4 μm Au
Type of contact	Single contact with notched crown
Nominal switching capacity AC-1	2000 VA (250 VAC / 8 A)
Electrical life AC-1 (0,1 Hz, 10% duty cycle)	approx. 100 000
Inrush current max.	30 A for 20 ms
Switching voltage range	5 ... 250 VDC/VAC
Switching current range*	3 mA ... 8 A
Switching power range*	40 mW ... 2000 W(VA)
Contact resistance as new	≤100 mΩ / 6 V / 100 mA

*guidelines

Module data excitation side at 20 °C

Nominal voltage (VDC)	Nominal current (mA)	Pick-up voltage relay coil (VDC)	Drop-out voltage relay coil (VDC)
12	69	≤8,4	≥1,2
24	51	≤16,8	≥2,4
48	33	≤33,6	≥4,8
110	11	≤77,0	≥11,0

other voltage values on request