



- According to DIN EN 61810
- With forcibly guided contacts according to IEC 61810-3
- Pluggable safety relay
- Low rated power consumption: 0.8 W
- Max. 2 output contacts
- Contact material: AgNi with fine gold
- High thermal current up to $I_{th} = 5 A$
- Large temperature range: $-40 \dots +85 \text{ }^\circ\text{C}$
- As option with free-wheel diode or varistor between A1/A2
- As option with AgSnO₂ or AgNi with hard gold
- Width: 15.8 mm

Notes

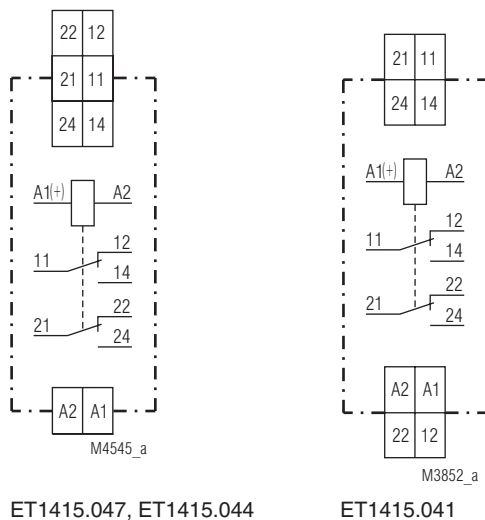
Safety relay with forcibly guided contacts OA 5669 and socket for supporting DIN-rail mounting.

Approval and Markings



*) for Relay OA 5669

Circuit Diagrams



Technical Data

Input

Nominal voltage U_N : DC 6, 12, 24, 48, 60, 110 V
other on request

Voltage range: 0.8 ... 1.4 U_N

Nominal consumption: 0.8 W

Output

Contacts

HC 3098 with OA 5669.16: 1 NO contact and 1 NC contact

HC 3098 with OA 5669.12: 2 changeover contacts

Contact material: AgNi10 + 0.2 μm Au

Operate time: typical 15 ms

Release time: typical 12 ms

Nominal output voltage: AC 250 V

Thermal current I_{th} : 3 x 5 A

Switching capacity

according to AC 15

NO contact: 3 A / AC 230 V IEC/EN 60947-5-1

NC contact: 1 A / AC 230 V IEC/EN 60947-5-1

according to DC 13

NO contact: 2 A / DC 24 V IEC/EN 60947-5-1

NC contact: 2 A / DC 24 V IEC/EN 60947-5-1

Electrical life

at 1 s ON, 1 s OFF

at AgSnO

AC 230 V, 6 A $\cos \varphi = 1$: 2 x 10⁵ switch. cycl. IEC/EN 60947-5-1

at AgNi: > 1 x 10⁵ switching cycles IEC/EN 60947-5-1

permissible switching frequency:

10 switching cycles / s

Switching voltage min. / max: AC/DC 10 V / DC 250 V, AC 380 V

AgNi + 5 μm Au: 100 mV / AC/DC 60 V

Switching current min. / max: 0.3 A / 5 A

AgNi + 5 μm Au: 1 mA / 0.3 A

Switching capacity min./max: 3 VA / 2000 VA

AgNi + 5 μm Au: 1 mVA / 7 VA

3 W / 240 W

AgNi + 5 μm Au: 1 mW / 7 W

Mechanical life: > 50 x 10⁶ switching cycles

Technical Data

General Data

Nominal operating mode:	continuous operation	
Temperature range:	- 40 ... + 85 °C	
Clearance and creepage distance		
rated impulse voltage /		
degree of protection:	2.5 kV / 2	IEC 60664-1
Overvoltage category:	III	
EMC		
Electrostatic discharge(ESD):	8 kV (air)	IEC/EN 61000-4-2
HF irradiation:	10 V/m	IEC/EN 61000-4-3
Fast transients:	4 kV	IEC/EN 61000-4-4
Surge voltages between		
wires for power supply:	2 kV	IEC/EN 61000-4-5
between wire and ground:	4 kV	IEC/EN 61000-4-5
HF-wire guided:	10 V	IEC/EN 61000-4-6
Interference suppression:	Limit value class B	EN 55011
Degree of protection:		
Terminals:	IP 20	IEC/EN 60 529
Enclosure:		
	thermoplastic with VO behaviour	
	according to UL Subj. 94	

Vibration resistance:	Amplitude 0.35 mm Frequency 10 ... 55 Hz, IEC/EN 60068-2-6 humid heat IEC/EN 60068-2-30 EN 50005
Climate resistance:	
Terminal designation:	
Wire connection	

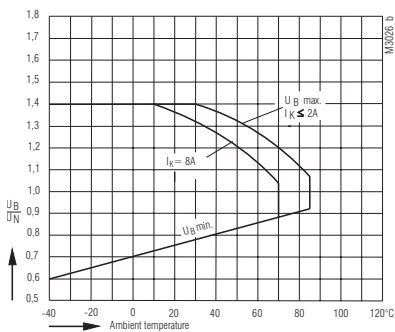
ET 1415.041, ET 1415.044:	0.14 ... 2.5 mm ² solid (14 - 20 AWG) 0.14 ... 2.5 mm ² stranded (14 - 20 AWG) 0.14 ... 1.5 mm ² sleeved end (14 - 25 AWG)
ET 1415.047:	2 x (0.2 ... 1.5) mm ² solid (16 - 25 AWG) 2 x (0.2 ... 1.5) mm ² stranded (16 - 25 AWG) 2 x (0.2 ... 1.5) mm ² sleeved end (16 - 25 AWG)

Wire fixing:	
ET 1415.041, ET 1415.044:	Screw terminals
ET 1415.047:	Cage clamp terminals
Mounting:	DIN-rail IEC/EN 60715
Weight:	
ET1415.____:	see accessories
OA 5669:	15 g

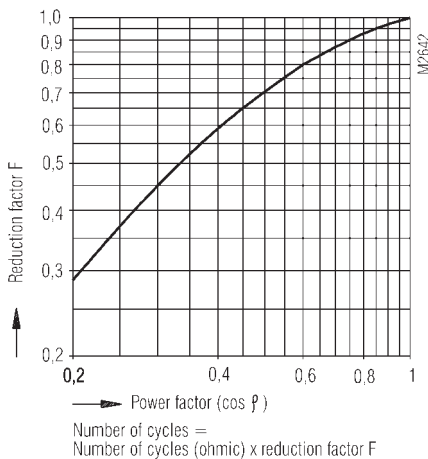
Dimensions

Width x height x depth: 13 x 25.5 x 29 mm

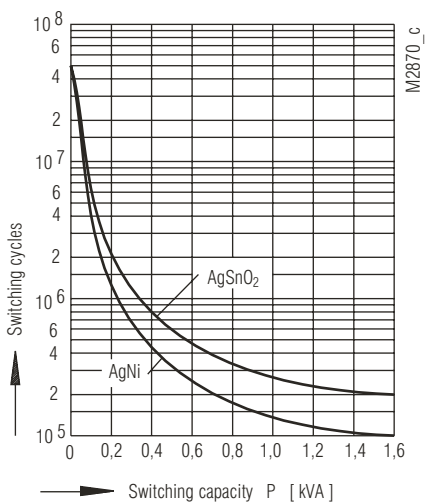
Characteristics



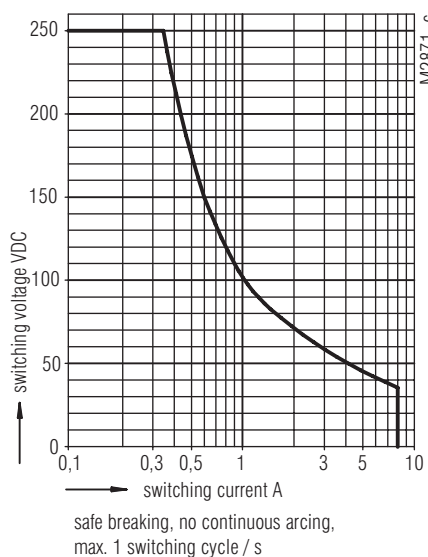
Operating voltage limit curve



Reduction factor for inductive loads



Contact service life



Limit curve for arc-free operation

Technical Data

Coil data with design version for Standard Type:

Nominal voltage DC V	Voltage range V	Resistance Ω ($\pm 10\%$)	AgNi		
			OA 5669.12	OA 5669.16	
6	4.5 ... 8.4	44	3001	3011	3501
12	9.0... 16.8	175	3002	3012	3502
24	18.0 ... 33.6	720	3003	3013	3503
48	36.0 ... 67.0	2 880	3004	3014	3504
60	45.0 ... 84.0	4 500	3005	3015	3505
110	82.0 ... 154.0	15 000	3006	3015	3506
				1)	2)

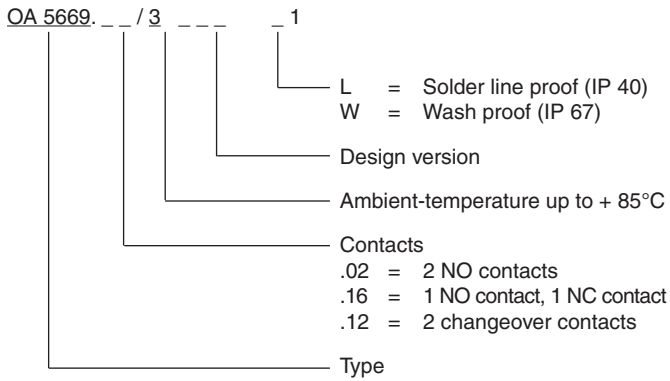
Design version

Nominal voltage DC V	AgNi (hard gold)			AgSnO ₂		
	OA 5669.12	OA 5669.16		OA 5669.12	OA 5669.16	
6	3031	3041	3511	3061	3071	3521
12	3032	3042	3512	3062	3072	3522
24	3033	3043	3513	3063	3073	3523
48	3034	3044	3514	3064	3074	3524
60	3035	3045	3515	3065	3075	3525
110	3036	3046	3516	3065	3075	3526
		1)	2)		1)	2)

1) = Pin configuration standard

2) = Pin configuration reverse

Ordering Example



Accessories

Function module

ET1415.913: DC 24 V, with free-wheel diode and green LED
Article number 0056828

ET1415.911: DC 24 V, with free-wheel diode and red LED
Article number 0055909

ET1415.912: AC/DC 24 V, with varistor and green LED
Article number 0055910

ET1415.924: DC 60 V, with free-wheel diode and red LED
Article number 0062552

Socket incl. fixing clip

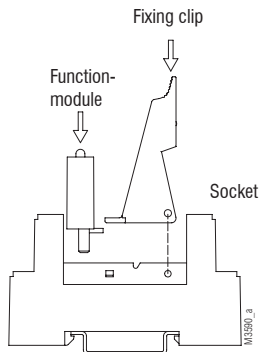
ET 1415.041: with screw terminals
Article number 0055571

ET 1415.044: with screw terminals and safe separation
Article number 0059274

ET 1415.047: with cage clamp terminals
Article number 0059270

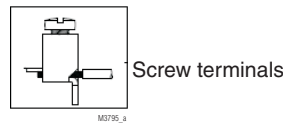
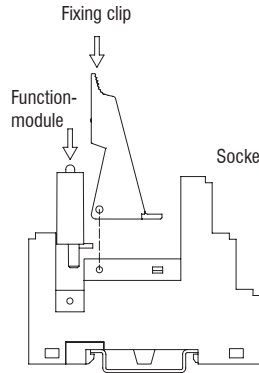
Accessories

Socket ET 1415.041

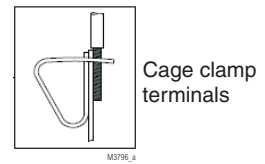
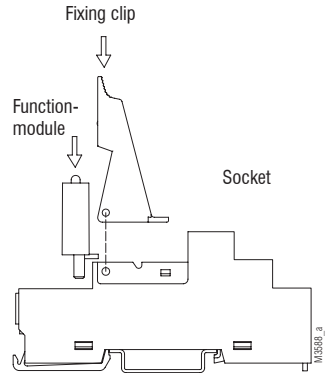


- Socket for DIN-rail
- incl. fixing clip

Socket ET 1415.044



Socket ET 1415.047



- Socket for DIN-rail
- incl. fixing clip
- incl. safe separation between coil and contacts according to DIN EN 60947-1, DIN EN 61140, DIN EN 60204

Degree of protection

Terminals: IP 20 IEC/EN 60529

Terminal designation: EN 50005

Wire connection

ET 1415.041, ET 1415.044: 0.14 ... 2.5 mm² solid (14 - 20 AWG)
0.14 ... 2.5 mm² stranded (14 - 20 AWG)
0.14 ... 1.5 mm² sleeved end (14 - 25 AWG)

ET 1415.047: 2 x (0.2 ... 1.5) mm² solid (16 - 25 AWG)
2 x (0.2 ... 1.5) mm² stranded (16 - 25 AWG)
2 x (0.2 ... 1.5) mm² sleeved end (16 - 25 AWG)

Wire fixing:

ET 1415.041, ET 1415.044: Screw terminals

ET 1415.047: Cage clamp terminals

Mounting: DIN-rail IEC/EN 60715

Weight:

ET 1415.041: approx. 38.5 g

ET 1415.044: approx. 43.5 g

ET 1415.047: approx. 42.0 g

Dimensions

Width x height x depth:

ET 1415.041: 15.8 x 75 x 69.0 mm

ET 1415.044: 15.8 x 75 x 75.0 mm

ET 1415.047: 15.8 x 97 x 75.5 mm