



- According to DIN EN 61810-1, DIN EN 61810-3 (Type A or Type B), IEC/EN 60947-5-1
- With forcibly guided contacts
- Pluggable safety relay
- Low rated power consumption: 0.8 W
- Max. 2 output contacts
- Contact material: AgNi, as option AgSnO₂
- High thermal current up to I_{th} = 5 A
- Large temperature range: - 25 ... + 85 °C
- As option with free-wheel diode or varistor between A1/A2
- Width: 15.8 mm

Product Description

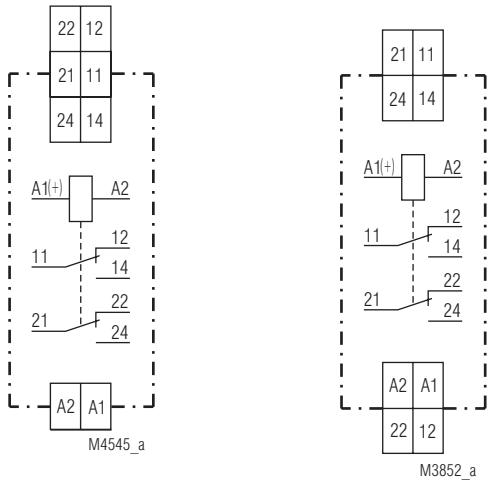
The interface module HC 3098 has forcibly guided contacts. It can be used to couple control signals and load signals also in safety circuits. A plug-in function module provides Indication LED and recovery diode. The compact dimensions allow space saving installation in industrial and domestic distributions.

Approvals and Markings



*) for relay OA 5669 only

Circuit Diagrams



ET1415.047, ET1415.044

ET1415.041

Notes

See also the data sheet of the corresponding relay. Safety relay OA5669.__/3_/_ with forcibly guided contacts and plug in socket for DIN rail mounting ET1415. According to DIN EN 61810-3 that talks only about relays with NC and NO contacts, for relays with forcibly guided changeover contacts (type B), the use of either the NC contact or the NO contact of a change over contact is allowed, e.g. 11-12 with 21-24 or 11-14 with 21-22.

Connection Terminals

Terminal designation	Signal description
A1(+)	L / +
A2	N / -
11, 12, 14; 21, 22, 24	Changeover contact

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

Kontaktbestückung

HC 3098 with OA 5669.16:	1 contact and 1 NC contact (Type A)
HC 3098 with OA 5669.12:	2 changeover contacts (Type B)

Contact material:	AgNi + 0.2 μm Au, AgNi + 5 μm Au, AgSnO ₂ + 0.2 μm Au
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Operate time:	Typical 15 ms
Release time:	Typical 12 ms
Nominal output voltage:	AC 250 V
Thermal current I_{th}:	2 x 5 A; 1 x 8 A

Switching capacity

to AC 15		
NO contact:	2 A / AC 250 V	IEC/EN 60947-5-1
NC contact:	1 A / AC 250 V	IEC/EN 60947-5-1
to DC 13		
NO contact:	2 A / DC 24 V	IEC/EN 60947-5-1
NC contact:	1 A / DC 24 V	IEC/EN 60947-5-1

Switching capacity AgSnO₂

to AC 15		
NO contact:	3 A / AC 250 V	IEC/EN 60947-5-1
NC contact:	1 A / AC 250 V	IEC/EN 60947-5-1

Electrical life

at 1 s ON, 1 s OFF at AgSnO ₂	
AC 230 V, 6 A $\cos \varphi = 1$: at AgNi:	2 x 10 ⁵ switch. cycl. IEC/EN 60947-5-1 > 2 x 10 ⁵ switch. cycl. IEC/EN 60947-5-1

Permissible switching

frequency:	10 switching cycles / s
Switching voltage min. / max.:	AC/DC 10 V; AC/DC 250 V AgNi + 5 μm Au: 2 V / AC/DC 60 V
Switching current min. / max.:	10 mA / 8 A AgNi + 5 μm Au: 2 mA / 0.3 A

Switching capacity min. / max.:	0.1 VA / 2000 VA 0.1 W / 200 W AgNi + 5 μm Au: 10 mVA / 12 VA AgNi + 5 μm Au: 10 mW / 12 W > 50 x 10 ⁵ switching cycles
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Mechanical life:

General Data

Nominal operating mode:	Continuous operation
Temperature range:	- 25 ... + 85 °C
Clearance and creepage distance	
Rated impulse voltage / degree of protection	
Input / output:	6 kV / 2 IEC 60664-1
Output / output:	4 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
Material socket:	Thermoplastic with V2 behaviour according to UL Subj. 94
Vibration resistance:	Amplitude 0.35 mm, acceleration 5g frequency 10 ... 200 Hz, IEC/EN 60068-2-6
Climate resistance:	Humid heat IEC/EN 60068-2-30
Terminal designation:	EN 60947-1

Technical Data

Wire connection

ET 1415.041, ET 1415.044	
Solid / stranded:	0.5 - 2.5mm ² (20-14 AWG)
Sleeved end:	0.14 - 2.5mm ² (26-14 AWG)
ET 1415.047	
2x solid / stranded:	0.5 - 1.5mm ² (20-16 AWG)
2x sleeved end:	0.14 - 1.5mm ² (26-16 AWG)

Stripping length

ET 1415.041. ET 1415.044:	7 mm
ET 1415.047:	11 mm

Wire fixing:

ET 1415.041. ET 1415.044:	Screw terminals
ET 1415.047:	Cage clamp terminals
Mounting:	DIN-rail IEC/EN 60715

Weight:

OA 5669:	15 g
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

OA 5669:	13.0 x 25.5 x 29.0 mm
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

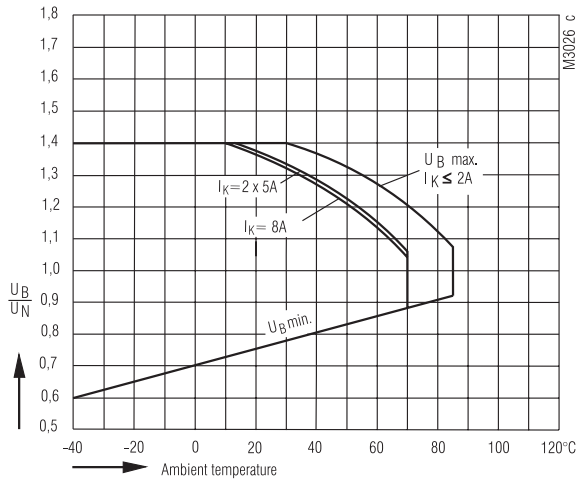
Coil Data with Design Versions for Standard Type

Nom. voltage DC V	Voltage range V	Resis- tance Ω ($\pm 10\%$)	AgNi + 0.2 μm Au	
			OA 5669.12	OA 5669.16
6	4.5 ... 8.4	44	3001	3011
12	9.0... 16.8	175	3002	3012
24	18.0 ... 33.6	720	3003	3013
48	36.0 ... 67.0	2 880	3004	3014
60	45.0 ... 84.0	4 500	3005	3015
110	82.0 ... 154.0	15 000	3006	3016

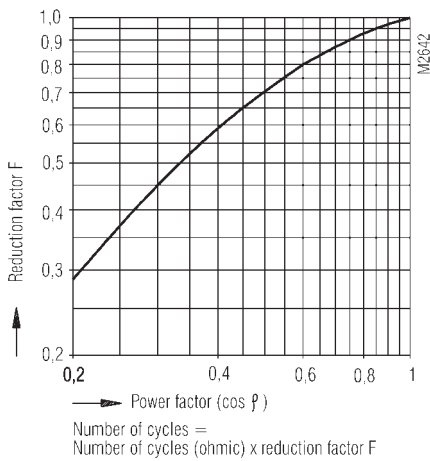
Nom. voltage DC V	Voltage range V	Resis- tance Ω ($\pm 10\%$)	AgSnO ₂ + 0.2 μm Au	
			OA 5669.12	OA 5669.16
6	4.5 ... 8.4	44	3061	3071
12	9.0... 16.8	175	3062	3072
24	18.0 ... 33.6	720	3063	3073
48	36.0 ... 67.0	2 880	3064	3074
60	45.0 ... 84.0	4 500	3065	3075
110	82.0 ... 154.0	15 000	3066	3076

Nom. voltage DC V	Voltage range V	Resis- tance Ω ($\pm 10\%$)	AgNi + 5 μm Au	
			OA 5669.12	OA 5669.16
6	4.5 ... 8.4	44	3031	3041
12	9.0... 16.8	175	3032	3042
24	18.0 ... 33.6	720	3033	3043
48	36.0 ... 67.0	2 880	3034	3044
60	45.0 ... 84.0	4 500	3035	3045
110	82.0 ... 154.0	15 000	3036	3046

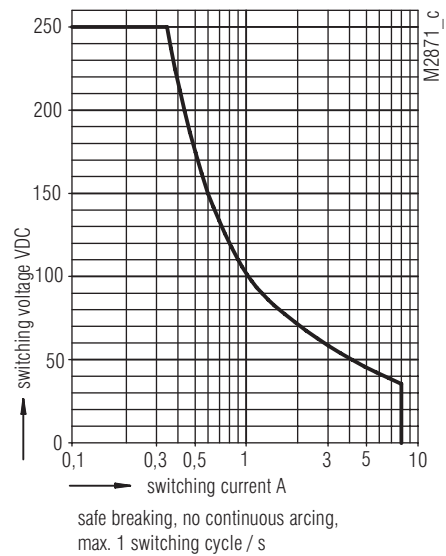
Characteristics



Operating voltage limit curve

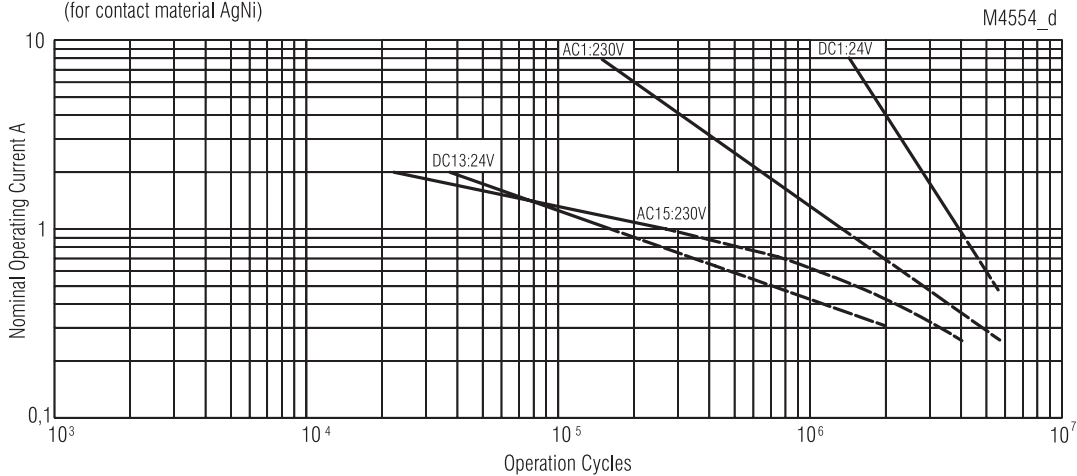


Reduction factor for inductive loads



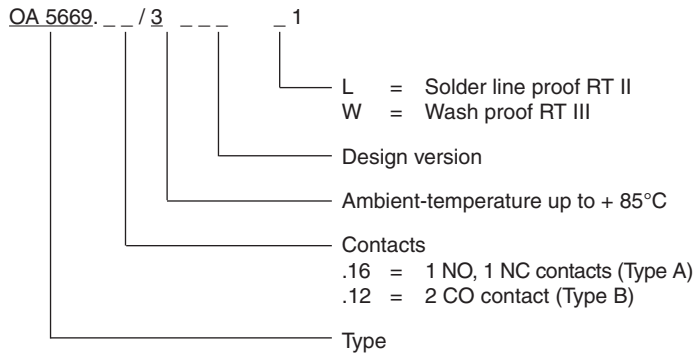
Arc limit curve

Electrical life of the output contacts determined by
DIN EN 60947-5-1 / Annex C.3
(for contact material AgNi)



Electrical life for AgNi

Ordering Example Relay



Function modules

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

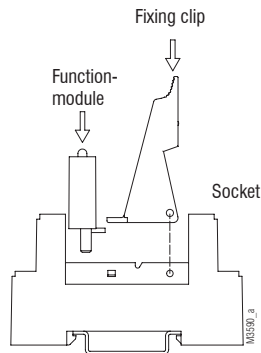
ET 1415.044: With screw terminals and safe separation
Article number 0059274

ET 1415.047: With cage clamp terminals
Article number 0059270

Socket incl. fixing clip

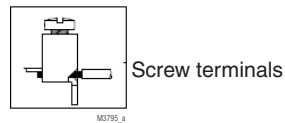
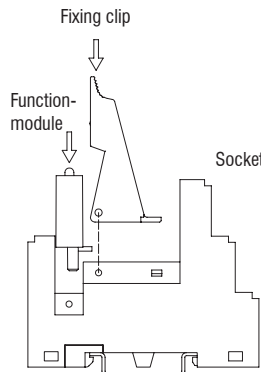
ET 1415.041: With screw terminals

Article number: 0055571



ET 1415.044: With screw terminals and protective separation

Article number: 0059274



- Incl. safe separation between coil and contacts according to DIN EN 60947-1, DIN EN 61140,

ET 1415.047: With cage clamp terminals

Article number: 0059270

Socket ET 1415.047

