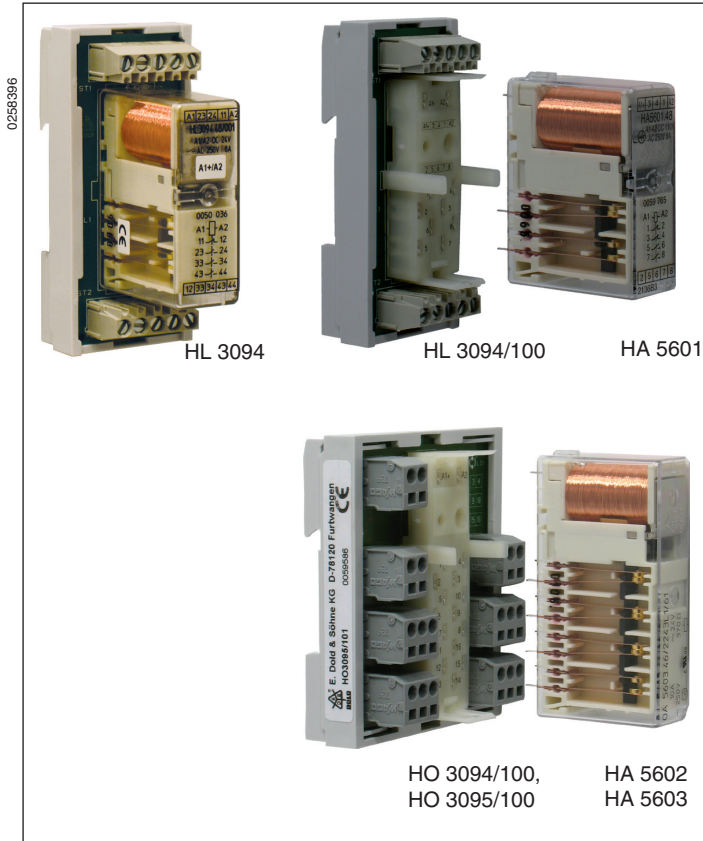


Interface module HL 3094, HO 3094, HO 3095  
SAFEMASTER®

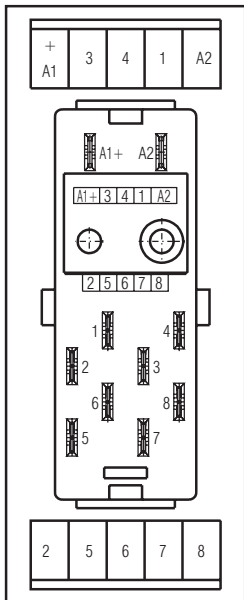


- According to EN 62 061, DIN EN ISO 13 849-1
- According to IEC/EN 60 255, IEC/EN 61 810-1
- With **positively guided** contacts according to EN 50 205
- Low nominal consumption: 0.75 W / 1 W / 1.25 W
- Max. 8 output contacts
- Contact material AgNi + 0.2 µm Au
- High thermal current  $I_{th} = 8 \text{ A}$
- Large temperature range: -25 ... +55°C
- Safety relay soldered on board
- Optionally AgNi + 5 µm Au or AgSnO + 0.2 µm Au
- Optionally with free-wheeling diode across A1/A2
- Optionally plug-in type
  - HA 5601 on socket HL 3094/10\_
  - HA 5602 on socket HO 3094/10\_
  - HA 5603 on socket HO 3095/10\_
- HL: 38 mm width
- HO: 73.3 mm width

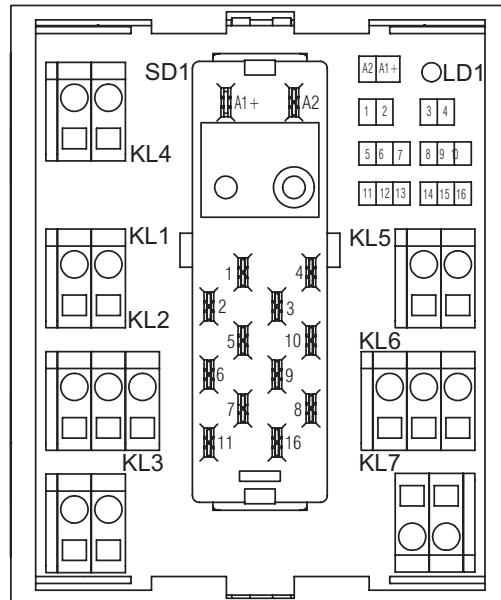
Approvals and marking



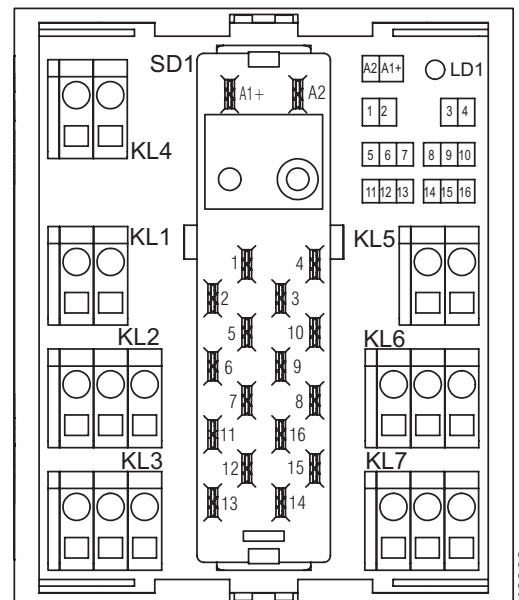
Socket labeling



M2404\_b

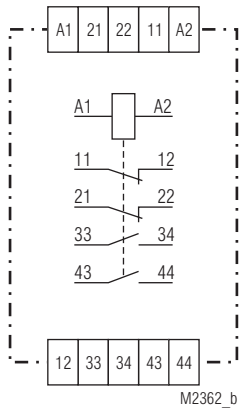


M3993\_a

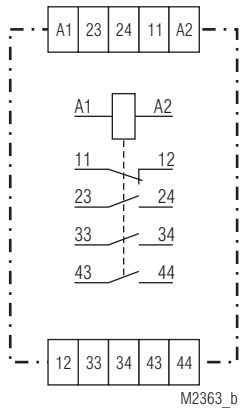


M3992\_a

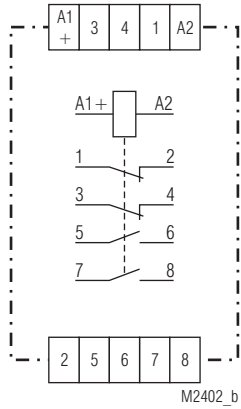
Circuit diagrams



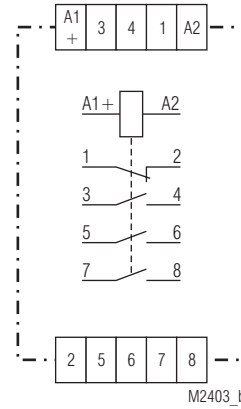
HL 3094.52



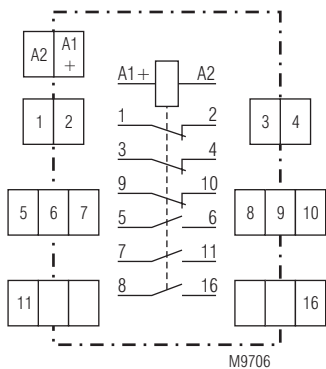
HL 3094.48



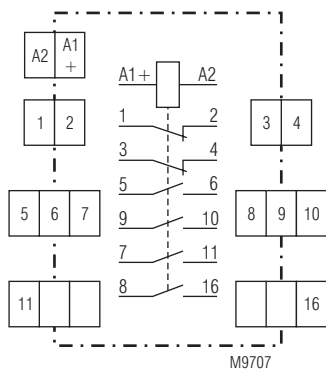
HA 5601.52



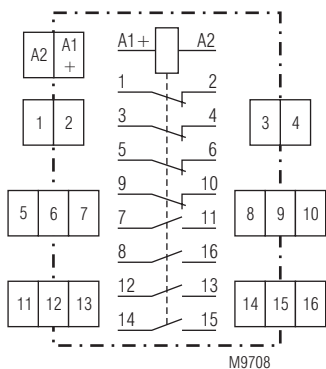
HA 5601.48



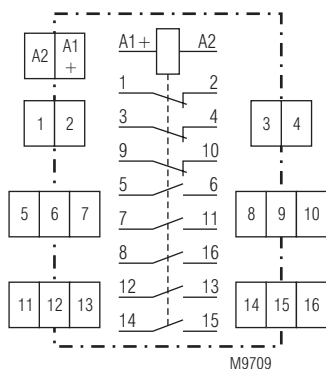
HA 5602.18



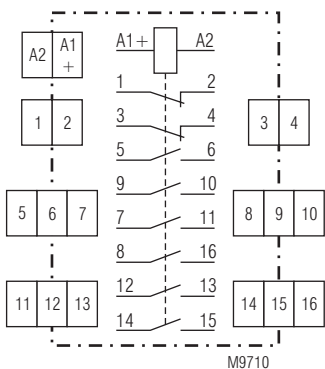
HA 5602.54



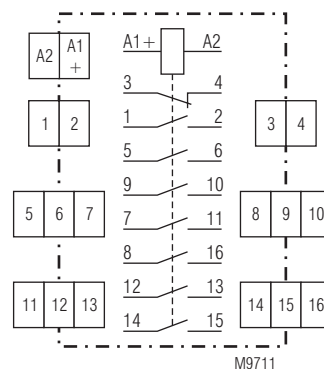
HA 5603.57



HA 5603.58



HA 5603.59



HA 5603.63

**Technical Data**

<b>Nominal voltage <math>U_N</math>:</b>	DC 6, 12, 24, 48, 60, 110 V other voltages on request
<b>Voltage range:</b>	0.8 ... 1.1 $U_N$
<b>Nominal consumption:</b>	
HL 3094:	0.75 W
HO 3094:	1 W
HO 3095:	1.25 W

**Output****Contacts**

HL 3094.52, HA 5601.52:	2 NO, 2 NC contacts
HL 3094.48, HA 5601.48:	3 NO, 1 NC contacts
HO 3094.18, HA 5602.18:	3 NO, 3 NC contacts
HO 3094.54, HA 5602.54:	4 NO, 2 NC contacts
HO 3095.57, HA 5603.57:	4 NO, 4 NC contacts
HO 3095.58, HA 5603.58:	5 NO, 3 NC contacts
HO 3095.59, HA 5603.59:	6 NO, 2 NC contacts
HO 3095.63, HA 5603.63:	7 NO, 1 NC contacts

**Contact material:** AgNi + 0.2  $\mu$ m Au**Contact type:** spring contact**Operate time:** typical 27 ms**Release time:** typical 5 ms**Nominal output voltage:** AC 250 V**Thermal current  $I_{th}$ :** 3 x 8 A**Switching capacity**

to AC 15

NO contact: 5 A / AC 230 V IEC/EN 60 947-5-1

NC contact: 2 A / AC 230 V IEC/EN 60 947-5-1

**Electrical life** IEC/EN 60 947-5-1

at 1 s x On, 1 s Off

at AC 230 V 5 A  $\cos \varphi = 1$ :  $> 7 \times 10^5$  switching cycles / AgSnO $> 5 \times 10^5$  switching cycles / AgNiat AC 230 V 8 A  $\cos \varphi = 1$ :  $> 3 \times 10^5$  switching cycles / AgSnO $> 2 \times 10^5$  switching cycles / AgNito AC 15 at 1 A, AC 230 V:  $1.5 \times 10^6$  switching cycles**Permissible switching****frequency:** 10 switching cycles / s**Switching voltage min./max.:** AC/DC 10 V / DC 250 V, AC 380 V  
(100 mV / AC/DC 60 V for  
AgNi-contacts + 5  $\mu$ m Au)**Switching current min./max.:** 0.3 A / 8 A  
(1 mA / 0.3 A for  
AgNi-contacts + 5  $\mu$ m Au)**Switching power min./max.:** 3 VA / 2000 VA  
(1 mVA / 7 VA for  
AgNi-contacts + 5  $\mu$ m Au)  
3 W / 240 W  
(1 mW / 7 W for  
AgNi-contacts + 5  $\mu$ m Au)**Mechanical life:**  $> 30 \times 10^6$  switching cycles**General Data****Operating mode:** Continuous operation**Temperature range:** - 25 ... + 55°C**Clearance and creepage distances**rated impuls voltage /  
pollution degree: 2.5 kV / 3 IEC 60 664-1**EMC**

Electrostatic discharge: 8 kV (air) IEC/EN 61 000-4-2

HF-irradiation: 10 V / m IEC/EN 61 000-4-3

Fast transients: 4 kV IEC/EN 61 000-4-4

Surge voltages

between

wires for power supply: 2 kV IEC/EN 61 000-4-5

between wire and ground: 4 kV IEC/EN 61 000-4-5

HF-wire guided: 10 V IEC/EN 61 000-4-6

Interference suppression: Limit value class B EN 55 011

**Degree of protection**

Housing: IP 40 IEC/EN 60 529

Terminals: IP 20 IEC/EN 60 529

**Housing:** Thermoplastic**Vibration resistance:** Amplitude 0.35 mm IEC/EN 60 068-2-6  
frequency 10 ... 55 Hz**Climate resistance:** Humid heat IEC/EN 60 068-2-30**Terminal designation:** EN 50 005**Technical Data****Wire connection:** 0.14 ... 4 mm<sup>2</sup> solide  
0.14 ... 2.5 mm<sup>2</sup> flexible**Wire fixing**HL 3094: box terminals  
HO 3094, HO 3095: cage clamp terminals**Mounting:** DIN rail IEC/EN 60 715**Weight:**

HL 3094 (incl. relay): approx. 120 g

HL 3094/100: approx. 58 g

HO 3094 (incl. relay): approx. 173 g

HO 3095 (incl. relay): approx. 183 g

HO 3094/100, HO 3095/100: approx. 93 g

HA 5601: approx. 78 g

HA 5602: approx. 85 g

HA 5603: approx. 95 g

**Dimensions****Width x height x depth**

Interface module HL 3094: 37.8 x 88 x 55.2 mm

Interface module HO 3094: 73.8 x 88 x 51.9 mm

Interface module HO 3095: 73.8 x 88 x 51.9 mm

Socket HL 3094 with  
safety relay HA 5601: 37.8 x 88 x 65.5 mmSocket HO 3094 with  
safety relay HA 5602: 73.8 x 88 x 59.9 mmSocket HO 3095 with  
safety relay HA 5603: 73.8 x 88 x 59.9 mm**Safety related data**

Safety data for other variants are available on request

## Standard type

HL 3094.52 DC 24 V

Article number:	0047426	stock item
• 2 NO, 2 NC contacts		
• Contact material:	AgNi10 + 0.2 µm Au	
• Nominal voltage U <sub>N</sub> :	DC 24 V	
• Width:	38 mm	

## Variants

Interface module:

H_309_/100:	Socket
H_309_/101:	Socket with free-wheeling diode
H_309_/102:	Socket with free-wheeling diode + LED
H_309_/103:	Socket with LED

Safety relay

HA 5601._._, HA 5602._._,	
HA 5603._._:	Contact material AgNi + 0.2 µm Au
HA 5601._._/001,	
HA 5602._._/001	
HA 5603._._/001:	Contact material AgNi + 5 µm Au
HA 5601._._/002,	
HA 5602._._/002,	
HA 5603._._/002:	Contact material AgSnO + 0.2 µm Au

other variants on request

## Ordering example for variants

H_309_._._ / _._._	DC 24 V
	Nominal voltage
	0: Ag Ni
	1: AgNi + 5 µm Au
	2: AgSnO
	0: Standard
	1: Wash proof
	0: Standard
	4: With LED
	5: With free-wheeling diode
	8: With LED and rectifier (for AC)
	9: With free-wheeling diode and LED
	Contacts
	4: HL 3094: 4 contacts
	HO 3094: 6 contacts
	5: HO 3095: 8 contacts
	L: Width: 38 mm
	O: Width: 74 mm