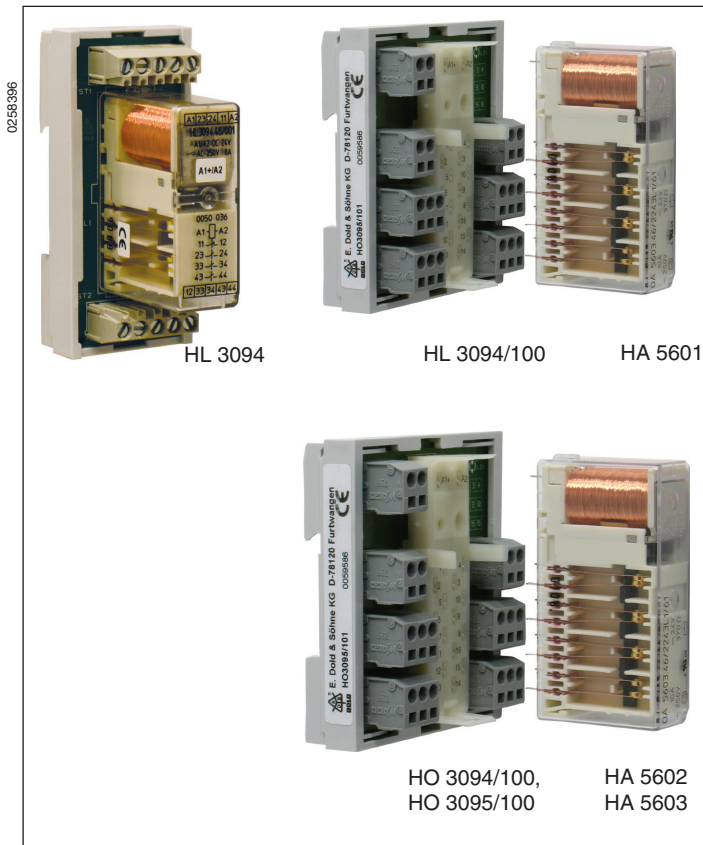


SAFEMASTER Interface Module HL 3094, HO 3094, HO 3095

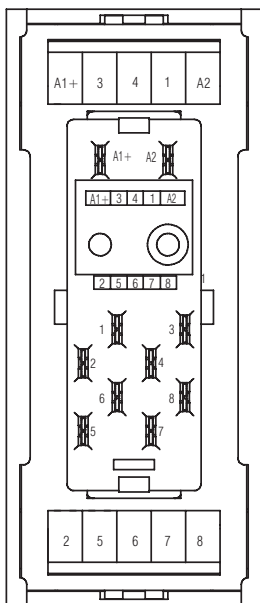


- According to IEC/EN 60255, IEC/EN 61810-1
- With **positively guided** contacts according to EN 50 205
- Low nominal consumption: 0.75 W / 1 W / 1.25 W
- Max. 8 output contacts
- Contact material AgNi + 0.2 μm Au
- High thermal current $I_{th} = 8$ A
- Large temperature range: -25 ... +55°C
- Safety 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 Markings

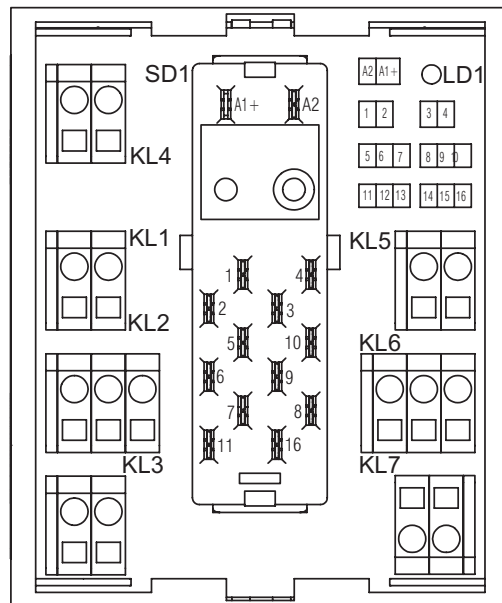


Socket Labeling



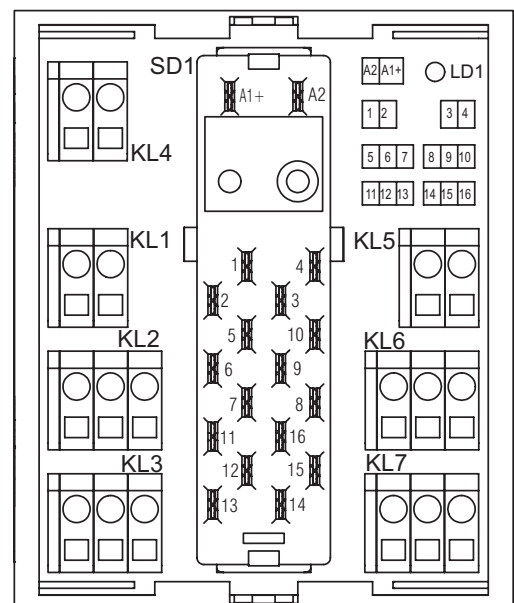
HL 3094/100, HL 3094/101

M2404_c



HO 3094/100, HO 3094/101
HO 3094/102, HO 3094/103

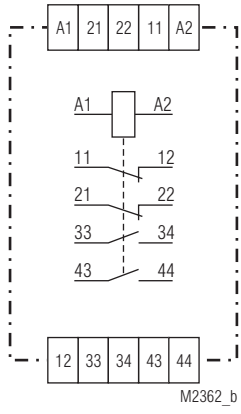
M3993_a



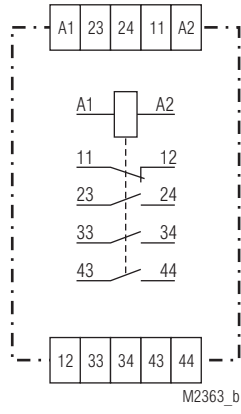
HO 3095/100, HO 3095/101
HO 3095/102, HO 3095/103

M3992_a

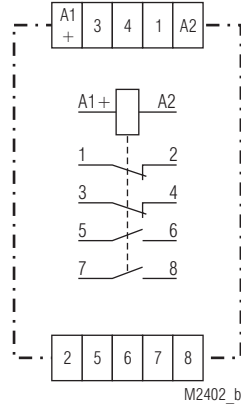
Circuit Diagrams



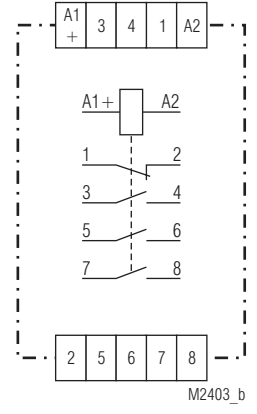
HL 3094.52



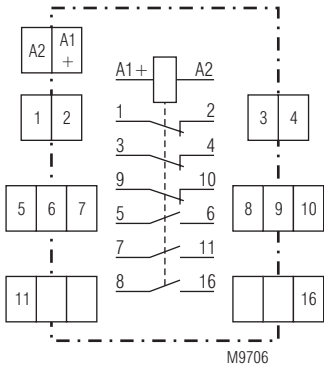
HL 3094.48



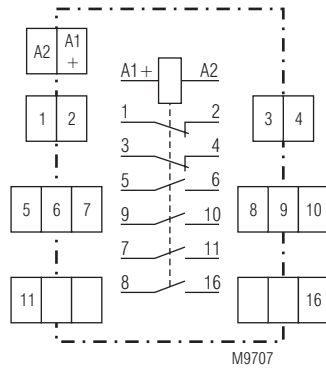
HA 5601.52



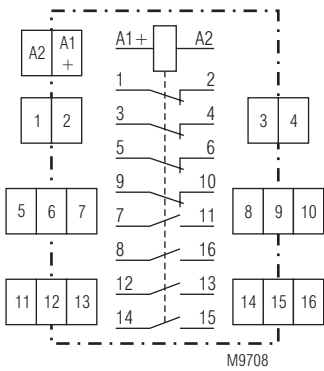
HA 5601.48



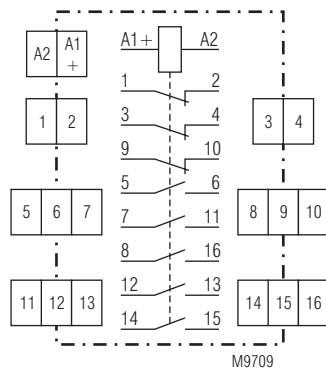
HA 5602.18



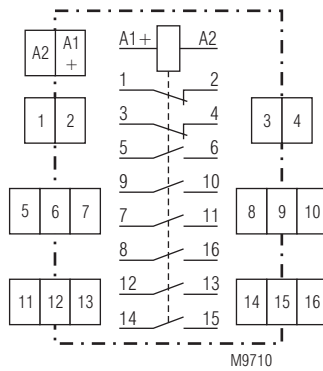
HA 5602.54



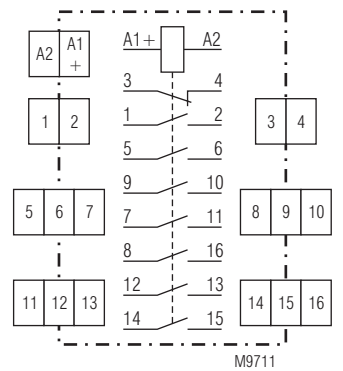
HA 5603.57



HA 5603.58



HA 5603.59



HA 5603.63

Technical Data	
Nominal voltage U_N:	DC 6, 12, 24, 48, 60, 110 V other voltages on request
Voltage range:	0.8 ... 1.1 U_N
Nominal consumption:	
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 μ 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	
at 1 s x On, 1 s Off	
at AC 230 V 5 A $\cos \varphi = 1$:	> 7 x 10 ⁵ switching cycles / AgSnO > 5 x 10 ⁵ switching cycles / AgNi
at AC 230 V 8 A $\cos \varphi = 1$:	> 3 x 10 ⁵ switching cycles / AgSnO > 2 x 10 ⁵ switching cycles / AgNi
to AC 15 at 1 A, AC 230 V:	1.5 x 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 μ m Au)
Switching current min./max.:	0.3 A / 8 A (1 mA / 0.3 A for AgNi-contacts + 5 μ m Au)
Switching power min./max.:	3 VA / 2000 VA (1 mVA / 7 VA for AgNi-contacts + 5 μ m Au) 3 W / 240 W (1 mW / 7 W for AgNi-contacts + 5 μ m Au)
Mechanical life:	> 30 x 10 ⁶ switching cycles
General Data	
Operating mode:	Continuous operation
Temperature range:	- 25 ... + 55°C
Clearance and creepage distances	
rated impulse voltage / pollution degree:	2.5 kV / 2 (basis insulation) 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 ² solide 0.14 ... 2.5 mm ² flexible
Wire fixing	
HL 3094:	box terminals
HO 3094, HO 3095:	cage clamp terminals
Fixing torque:	0.4 Nm
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 mm
Socket HO 3094 with safety relay HA 5602:	
	73.8 x 88 x 59.9 mm
Socket HO 3095 with safety relay HA 5603:	
	73.8 x 88 x 59.9 mm

Classification to DIN EN 50155

Vibration and shock resistance:	Category 1, Class B	IEC/EN 61 373
Protective coating of the PCB:	No	

Standard Type

HL 3094.52 DC 24 V

Article number: 0047426

• 2 NO, 2 NC contacts

• Contact material: AgNi10 + 0.2 µm Au

• Nominal voltage U_N : 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

