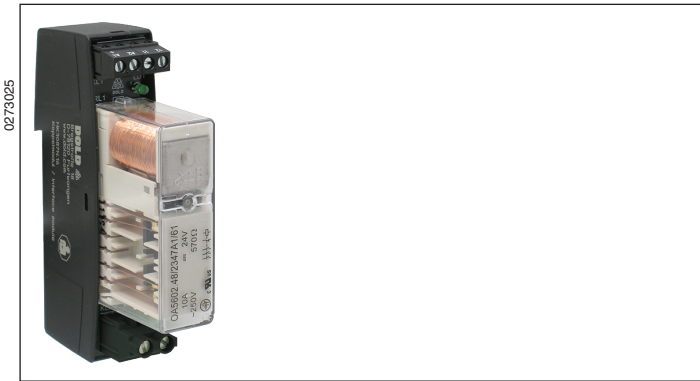


SAFEMASTER Interface Module HK 3087N



Your Advantages

- Simple contact extension and re-inforcement also of safety modules
- Cost and space saving alternative compared to contactors
- Simple contact monitoring via forcibly guided NC contact
- Large wire cross section 0.5 - 6 mm² (10 - 24 AWG) reduces thermal load on wires

Features

- According to IEC/EN 61810-1, IEC 60664-1
- With forcibly guided contacts according to IEC 61810-3
- Models with soldered in PCB safety relay
- With polarity protected diode
- Optionally with free-wheeling diode across relay coil
- With LED indicator
- For DIN rail mounting according IEC/EN 60715
- Clearance and creepage distance between NC and NO contact > 10 mm
- Width 22.5 mm

Product Description

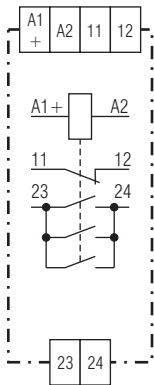
The interface module HK 3087N has forcibly guided contacts. Therefore it can be used to safely separate control and load circuits as well as to reinforce contacts of safety devices.

The interface module has a strong isolation between monitoring and load contact and is designed for high thermal current.

Approvals and Markings



Circuit Diagram



M11283_a

HK 3087N.16

Applications

- Interfacing between control and load circuits
- Contact extension and re-inforcement
- Separate switching of several current circuits, e. g. at
 - Machines and plants,
 - Energy production and transport

Indicator

Green LED: On, when supply connected

Notes

The gold plated contacts of the HK 3087N mean that this module is also suitable for switching small loads of 10 mVA ... 12 VA, 10 mW ... 12 W in the range 2 ... 60 V, 2 ... 300 mA. The contacts also permit the maximum switching current. However since the gold plating will be burnt off at this current level, the device is no longer suitable for switching small loads after this (not for variant HK 3087N.16/004).

Connection Terminals

Terminal designation	Signal description
A1+	+ 24 V DC Coil
A2	GND Coil
11, 12	Forcibly guided indicator contact
23, 24	Forcibly guided load contact

Technical Data

Input

Nominal voltage U_N:	DC 24 V (others on request)
Voltage range:	0.8 ... 1.2 U_N
Nominal consumption:	1.0 W

Output

Contacts

HK 3087.16, OA 5602.48: 1 NO and 1 NC contact

Contact material: AgSnO₂ + 0.2 μmAu

Contact type: Spring contact

Operate time: Max. 20 ms

Release time: Max. 39 ms

Nominal output voltage: AC 250 V

Thermal current I_{th}

NO contact: 25 A

NC contact: 5 A

Switching capacity

to AC 15

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

NC contact: 2 A / AC 230 V IEC/EN 60947-5-1

To DC 13

NO contact: 4 A / DC 24 V IEC/EN 60947-5-1

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

Electrical life

NO contact

to AC 15 at 1 A, AC 230 V: 1.5 x 10⁶ switch. cycl. IEC/EN 60947-5-1

to AC 15 at 0.5 A, AC 230 V: 2.5 x 10⁶ switch. cycl. IEC/EN 60947-5-1

NC contact

to AC 15 at 1 A, AC 230 V: 1 x 10⁶ switch. cycl. IEC/EN 60947-5-1

to DC 13 at 1 A, DC 24 V: 0.5 x 10⁶ switch. cycl. IEC/EN 60947-5-1

Short circuit strength

max. fuse rating

NO contact: 32 A gL IEC/EN 60947-5-1

NC contact: 6 A gL IEC/EN 60947-5-1

Mechanical life: ≥ 50 x 10⁶ switching cycles

General Data

Operating mode: Continuous operation

Temperature range:

Operation: - 40 ... + 55 °C

Storage: - 25 ... + 70 °C

Altitude: ≤ 4000 m

Clearance and creepage

distances

between contact 23, 24
to contact 11, 12: > 10.3 mm

Rated impulse voltage /
pollution degree: 8 kV / 2 IEC 60664-1

Between contact 23, 24
to relay coil A1+, A2: > 10.3 mm

Rated impulse voltage /
pollution degree: 8 kV / 2 IEC 60664-1

Between contact 11, 12
to relay coil A1+, A2: > 3.0 mm

Rated impulse voltage /
pollution degree: 2.5 kV / 2 IEC 60664-1

Technical Data

EMC

Electrostatic discharge: 8 kV (air) IEC/EN 61000-4-2

HF irradiation: 10 V / m IEC/EN 61000-4-3

Fast transient: 4 kV IEC/EN 61000-4-4

Surge voltages

between

wires for power supply: 1 kV IEC/EN 61000-4-5

Between wire and ground: 2 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

Housing: IP 40 IEC/EN 60529

Terminals: IP 20 IEC/EN 60529

Housing: Thermoplastic

Vibration resistance: Amplitude 0.35 mm

Frequency 10 ... 55 Hz, IEC/EN 60068-2-6

Climate resistance: Humid heat IEC/EN 60068-2-30

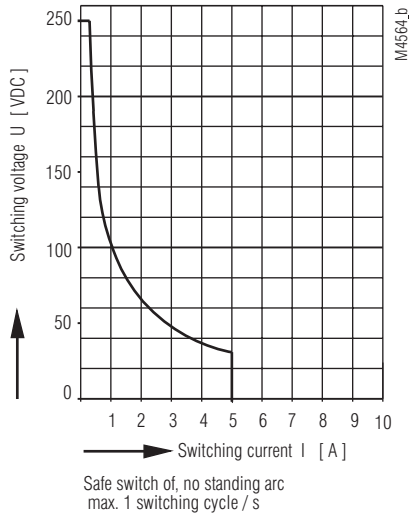
Terminal designation: EN 50005

Terminal connection:

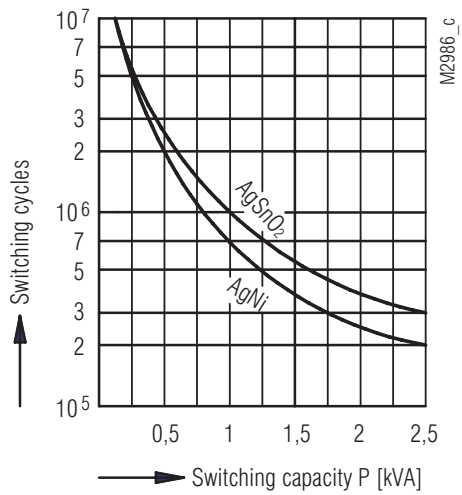
NC contact	NO contact
auxiliary voltage	

0.5 ... 2.5 mm ² solid	0,5 ... 6 mm ² solid
0.5 ... 2.5 mm ² flexible	0,5 ... 4 mm ² flexible

Characteristic (NC contact)



Arc limit curve under resistive load



Contact service life

Dimension

