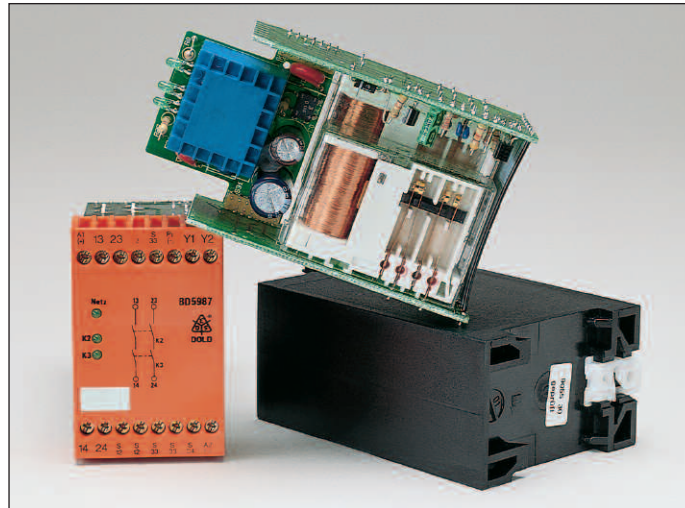


Applications

Safety relays with forced-guided contacts are the core components for safety devices and are indispensable when designing safety circuits. Safety devices are designed to protect man and machine as demanded in OSHA CFR 1910 Regulations “General Requirements for All Machinery”, and which is a mandatory requirement of the European Machinery Directive EMD 89/392 EEC.

DOLD safety relays, manufactured according to DIN EN 50205, are approved for use in safety applications to IEC 60204, EN 60204, DIN/VDE 0113, as well as Escalator Standard EN 115/06.95 and Elevator Standard EN 81 Part 1/10.86, TRA 101/07.80.



Typical Applications

- Emergency stop modules
- DIN Rail safety modules
- Safety door controls
- Two-hand operating devices
- Pressure mat controls
- Light barriers and curtains
- Speed controls
- Monitoring devices

Equipment controls systems for:

- Elevators and escalators
- Cranes
- Door and gate drive systems
- Printing and textile machinery
- Robots
- Stamping machines
- Medical equipment
- Cutting machines
- Rail transportation systems
- Signaling systems
- Press systems

WARNING

Improper use and installation of safety relays - modules into safety related circuitry without complying with the applicable regulations can cause serious injury to the operator.

Due to the wide range of potential users and customers' interpretation of the standards covering the applications of the safety relays described in this brochure, it is impossible for DOLD personnel or sales agents to be familiar with all safety and health standards and requirements that may apply to any specific application.

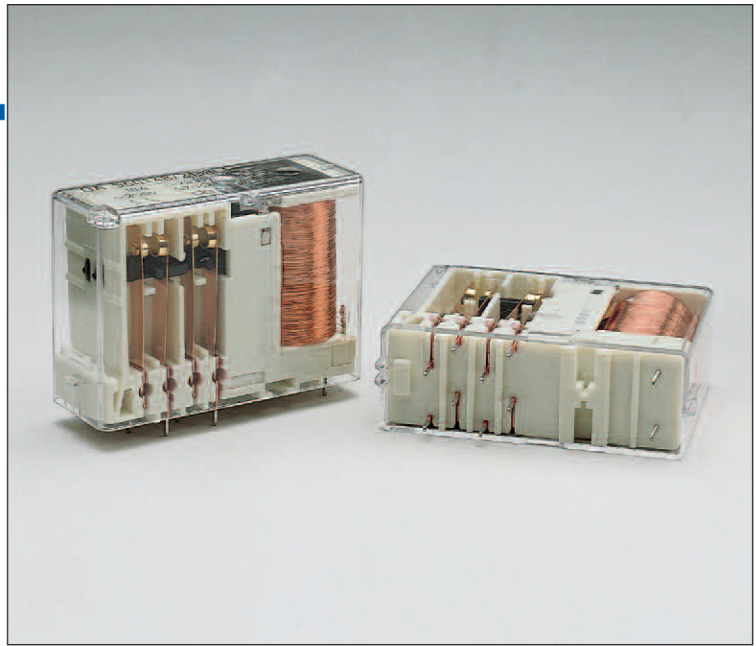
It is the responsibility of the user to determine the suitability of a safety relay for the intended application and to determine that the safety relay chosen and its installation will comply with all applicable safety and health regulations and codes.

Safety Relay

OA 5601

Features

- n 4 output contacts
- n International approvals: TÜV, CSA, UL, cUL
- n Quality control check for each safety relay
- n Forced-guided contacts, all gold flash plated
- n Contact gap > 0.5 mm throughout life of relay
- n Various contact materials, mixed contact material optional
- n High coil voltage range
- n High switching voltage
- n High breakdown voltage: contact/coil > 4 KV
- n High creeping distance: contact/coil > 8 mm
- n Crown contacts
- n Solid connection between coil and contact housing
- n Custom design available,
 - coil voltage
 - coil resistance,
 - contact pressure
 - operate/release time



GERMANY



USA/CANADA

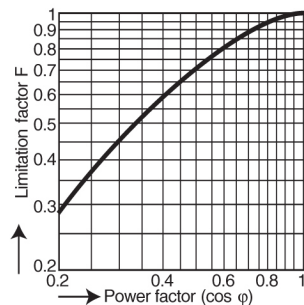


CANADA

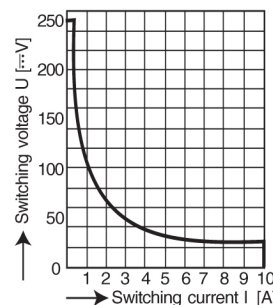
Technical Data

- n **Nominal Coil Voltage** 6,12 ,24, 48, 60, 110, DC
- n **Coil Power Dissipation** 0.75 W
- n **Max. Switching Voltage** 250V DC, 400V AC
- n **Max. Switching Current** 10 A
- n **Max. Switching Power—DC** 240W
- n **Max. Switching Power—AC** 2500VA
- n **Contact Switching Rate** 10 operations per second
- n **Relay Operate Time** 27 ms
- n **Relay Release Time** 5 ms
- n **Operation Vibration** 0.35 mm Ampl. max @ 10...55Hz
- n **Contact Arrangements** 2NO/2NC, 3NO/1NC
- n **Contact Material** AgSnO₂+0.2µmAu, AgNi10+0.2µmAu, AgNi10+5µmAu
- n **Mechanical Life** 30x10⁶ operation cycles
- n **Electrical Life** AgSnO₂ >7x10⁵, AgNi10 >5x10⁵ operation cycles @ 230V AC, 5A, cos φ=1
 AgSnO₂ >3x10⁵, AgNi10 >2x10⁵ operation cycles @ 230V AC, 10A, cos φ=1
- n **Ambient Temperature** -25...+85°C
- n **Protection Rating** IP 40
- n **Cover Material** Thermoplast
- n **Weight** 75 g
- n More detailed data upon request

Diagrams

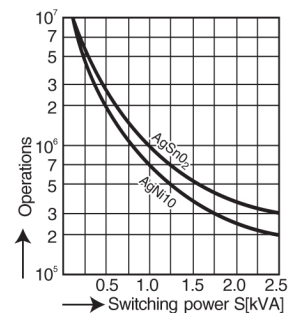


Relay operation voltage vs. ambient temperature



Safe disconnection, no remaining arc, max. 1 operation/sec.

Maximum switching power curve



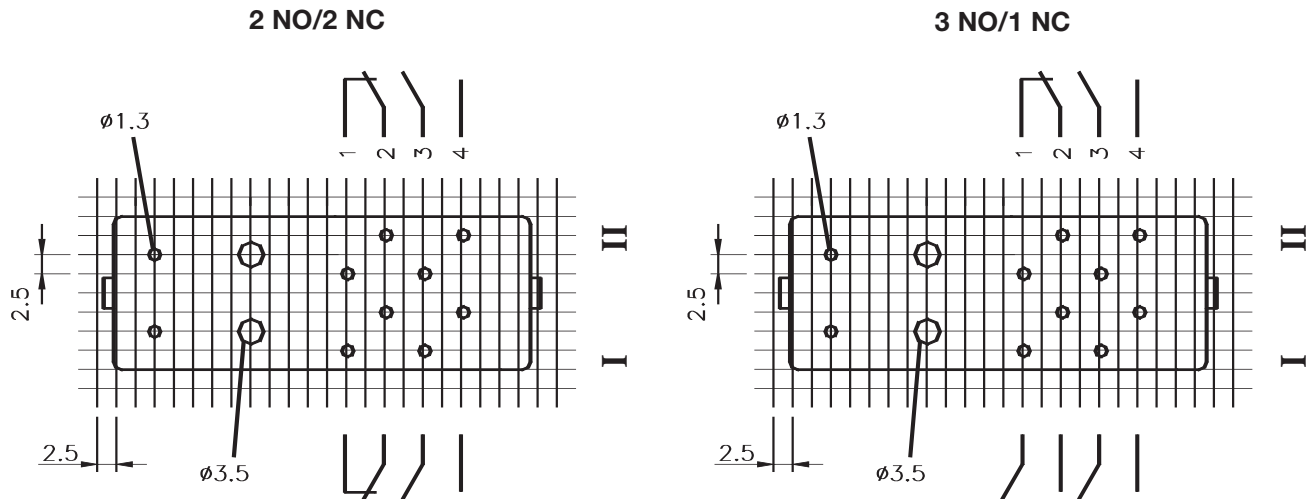
Mechanical life

Safety Relay 5601 Data

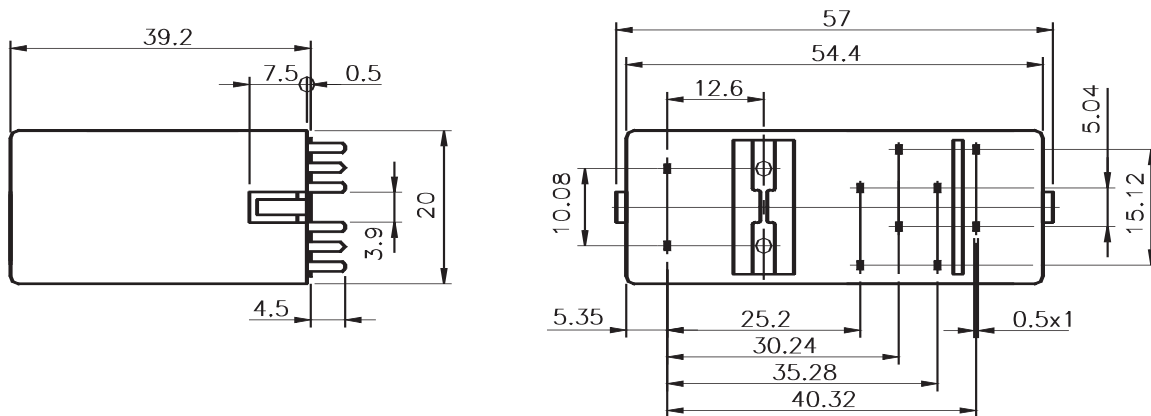
Relay Data			Ordering Information	
Rated Voltage	Voltage Range	Coil Resistance	2 NO/2 NC Type	3 NO/1 NC Type
6V	4.2 - 9.6V	48 Ω	56.OA01.0622□	56.OA01.0631□
12V	8.4 - 19.2V	192 Ω	56.OA01.1222□	56.OA01.1231□
24V	16.8 - 38.4V	770 Ω	56.OA01.2422□	56.OA01.2431□
48V	33.6 - 76.8V	2880 Ω	56.OA01.4822□	56.OA01.4831□
60V	42.0 - 96.0V	4880 Ω	56.OA01.6022□	56.OA01.6031□
110V	77.0 - 176.0V	16000 Ω	56.OA01.1122□	56.OA01.1131□

Contact Material, Example: □ AgSnO₂+0.2μmAu
 □ AgNi10+0.2μmAu
 □ AgNi10+5μmAu

Footprints (Note: Shown at their actual size.)



Dimensions (Note: Shown at their actual size.)



Note: All dimensions are shown in millimeters.
 To convert to inches, divide by 25.4.