

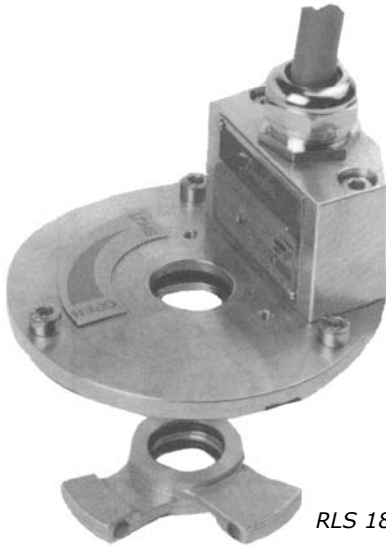
Product Data Sheet

SD 2002-0E02

August 2008

Damcos® RLS IP 68

RLS IP 68 Actuator mounted on/off position indicator



RLS 182/0-68

Application

The RLS is designed to fit DKMS quarter-turn valve actuators BRC and BRCF

for use within the temperature range from -20°C to +80°C.

Basic design

Switch function is accomplished by two normally open reed switches, resin embedded in the indicator basis cover that forms a cover for the indicator cavity on the actuator. Each reed switch is activated by a separate magnet arm, friction mounted on the actuator indicator shaft. As a result of the friction mounting and the twin arm design the RLS indicators are

self-adjusting and can be used to indicate end positions of any interval from 15 to 180 degrees. Electric connection is established through a 4-pole terminal-strip mounted in the cover. The permanent connections from the terminal to the reed switches are resin embedded. The terminal is protected by a connection housing that holds the cable gland.

Indicator/actuator key

| Type: | Part. no.: | For actuator type (version): |
|--------------|------------|--|
| RLS 182/0-68 | 056-3461 | BRC 022-092 (A1) BRCF 002-042 (B1) BRCF 052-072 (A1) |
| RLS 182/4-68 | 056-3471 | BRC 002M (A1) |
| RLS 222/0-68 | 056-3221 | BRC 002 (A1) |
| RLS 302/0-68 | 056-3551 | BRC 012 (A1) |

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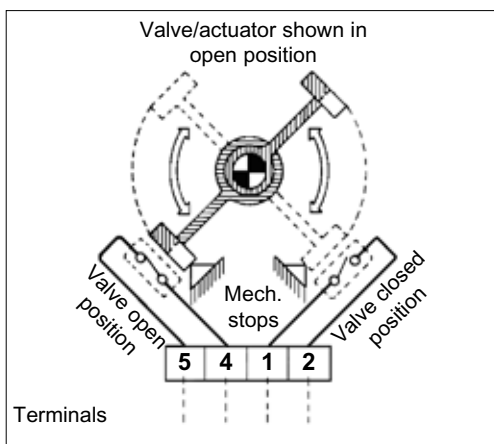

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Type designation code

| | |
|---|--|
| <p>CPI XXX/X-XX</p> <p>Enclosure rating, IP</p> <p>Accessory code no.</p> <p>Edition no.</p> <p>Diameter (mm) of hole in basis cover and magnet arms.</p> | <p>Accessory code no</p> <p>0: No accessor</p> <p>2: Adapter, Ø 12/Ø 22.</p> <p>3: Adapter, Ø 12/Ø 22 +indicator housing.</p> <p>4: Indicator housing.</p> |
|---|--|

Terminal layout



How to hook-up the RLS

The reed switches incorporated in the RLS indicator are high quality switches that are extremely reliable as long as the following ratings are observed:

- Max. continuous load: 2.5 W (VA)
- Max. peak load: 12 W (VA)

In order to obtain optimum reliability from the RLS position indicator DKMS recommends a switch hook-up according to one of the four wiring diagrams shown below:

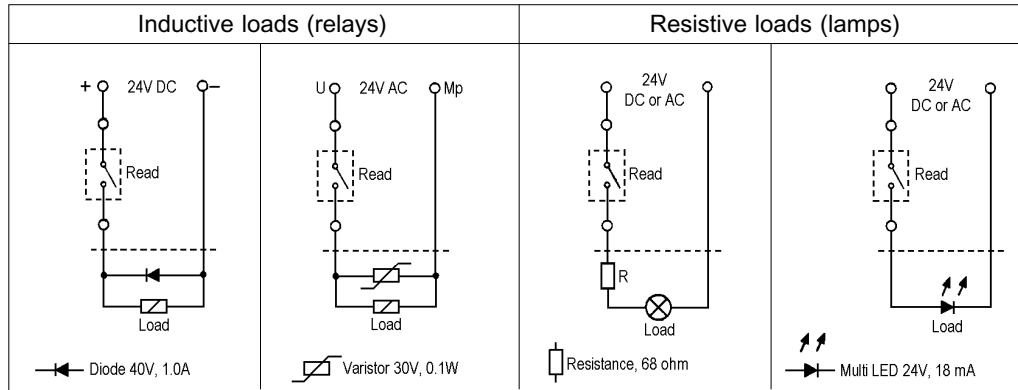
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Wiring diagrams



Cabling

| Cable gland data | |
|---------------------------|--|
| Cable outer dia.: | 8 - 15 mm |
| Enclosure rating: | IP 68 |
| Thread: | PG 13.5 |
| Material: | Nickel plated brass |
| Seal material: | Perbunan |
| Wiring to the terminal: | Cross sections 0.5 - 1.5 mm ² (AWG 22 - 16) |
| Cable quality/connection: | Observe that water intrusion into the terminal housing can take place through the cable - even through each individual wire. |

Materials (excl. cable gland)

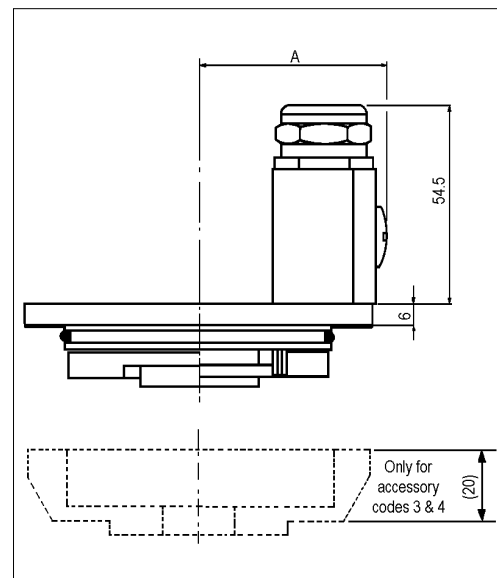
| | |
|---------------------------------|-------------------------------|
| Housings and magnet arms: | Brass MS 58 (CuZn39Pb3) |
| Activating magnets: | Plastic bonded rare earth |
| Screws, sign plates and rivets: | AISI 304 |
| Gaskets: | Chloroprene (CR) |
| Seals and friction elements: | Acrylonitrile butadiene (NBR) |
| Embedding material: | Epoxy resin |

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Dimensions

Manufacturers data for reed switches:

| | |
|---------------------------------|----------------------------|
| Contact material: | Rhodium |
| Dielectric strength: | 400 V DC |
| Contact resistance max.: | 100 m Ohm |
| Insulation resistance: | 1011 Ohm |
| Operate sensitivity - standard: | 30....40 AT |
| Release sensitivity - standard: | > 15 AT |
| Capacitance of open contacts: | 0.2 to 0.5 pF |
| Vibration resistance: | 50....1000 Hz |
| Shock resistance: | 50 g, 11 ms |
| Life expectancy max.: | 5 x 10 ⁸ cycles |
| Operate time typical: | 3 ms |
| Bounce time typical: | 0.2 ms |
| Release time typical: | 0.07 ms |
| Resonant frequency typical: | 4000 Hz |
| Operating frequency max.: | 3200 Hz |



| Basic type: | A | Weight approx. |
|------------------|-------|----------------|
| RLS 182 & 222 | 53 mm | 1.0 kg |
| RLS 302 | 68 mm | 1.5 kg |
| RLS 382 | 63 mm | 1.3 kg |
| Housing (code 1) | | 0.6 kg |

Test

The switch has been vibration tested according to IEC 68-2-6, Fc. Neither the switch function nor the positioning of the magnet arms was affected.

Additional equipment

If the RLS is placed on open deck or similar we will recommend that the RLS is being mounted with shaft cover. Please contact DKMS for further information.

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