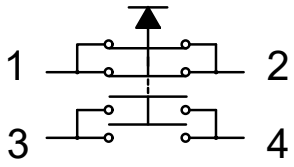
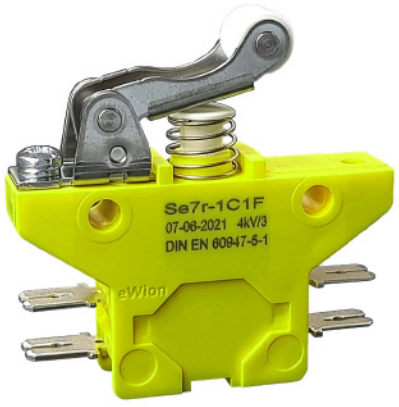
Snap action switch, S37 series

Dual changeover switches with redundant contact bridges and self cleaning





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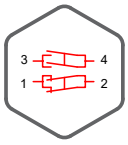
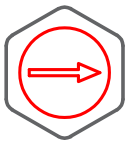
S37 series, technology in the details



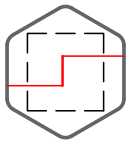
eWion snap action switch S37 with eWion contact reliability
Equipped with two-circuit changeover with double interruption with two galvanically separated circuits, and with self-cleaning redundant contact bridges. Snap action switch S37 has been developed in accordance with DIN EN 60947-5-1, GB 14048.5. Design and geometry based on DIN 41636-6, type F. Galvanically separated circuits allow two circuits (NO and NC) to be operated at different electrical levels.

Redundant bridges for safety-relevant applications
Due to redundant switching bridges, we guarantee sufficient contact behavior, even with a low electrical contact load. This will be guaranteed by the contact friction. Thus, the S37 is an ideally application for safety-relevant applications with high demands on contact reliability and availability.

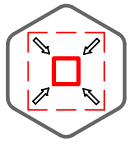


Positive opening
S37 series snap-action switches have an integrated positive opening of the NC circuit,
when the NC circuit is welded, for example after a short circuit incidence in the system.
The positive opening is designed according to DIN EN 60947-5-1, Appendix K and GB 14048.5, Appendix K.

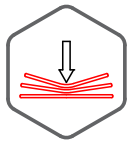
Maintenance free
Switch S37 is maintenance-free for the entire service life and has a newly designed drive; thanks to a special design, it can compensate for height differences in the contacts (e.g. caused by uneven contact wear or contact erosion).



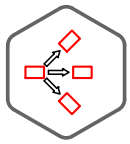
Short bounce times, high repeatability
The new drive and the new technology of S37 enable very high repeat accuracy even with a slow actuation speed for the switching parameters such as switching point and reset point. The snap mechanism enables a defined switching process and short bounce time, because its switching speed is largely independent of the operating speed.



Small space, flexibility in assembly and in operation
Blade terminal version, width less than 50 mm at the blade terminal connections. Small size enables installation in limited space and better access to the connections. The overtravel (approx. 1.7mm) after the switching point and the total travel of 3.95mm offer flexibility in operation, installaton and setting.

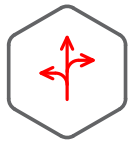


Welded switch housing, housing material crack-resistant and impact-resistant
The housing is clipped over conical seats and welded to prevent it from uncontrolled opening.
Housing material made from thermoplastic compound which offers highly crack-resistance, impact-resistance and chemical-resistance at once.
It enables a wide operating temperature range from -40 ° C to + 85 ° C.



Low transition resistance, results scalable
Several switches can be connected inline; by redundant switching bridges, they offer a very low contact resistance. System solutions with our snap action switches make your system more reliable thanks to their very low contact resistance.
The achieved results with our snap switches are scalable.

eWion redundancy technology saves time and costs
eWion offers snap action switches for a wide range of switching applications in different designs. The use of eWion redundancy technology guarantees a high availability of your product, through eWion contact reliability, which saves time and money.



Flexible and versatile
Regardless of whether you need low contact resistance, short bounce times, redundant circuits, high repeatability or long service life – snap action switches from eWion offer a wide range of technical properties. Even for special industrial applications, such as 8 pcs flat plug connections at one switch.

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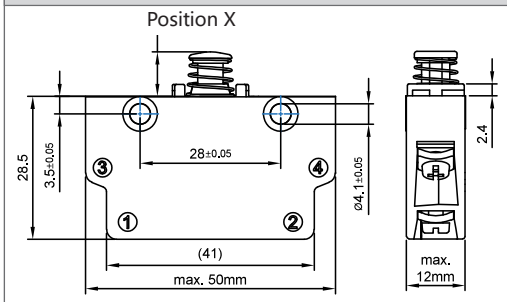
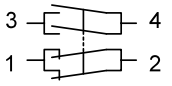
Geometry and parameters

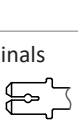
Screw connection



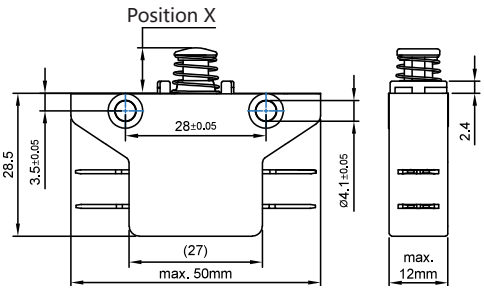
Circuit diagram



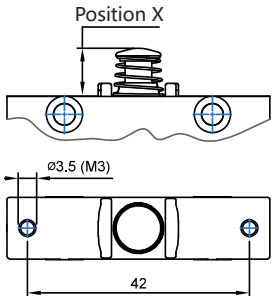
Blade terminals
6.3 x 0.8
2.8 x 0.8

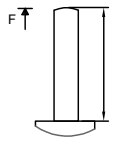
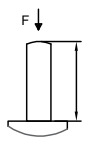
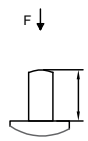
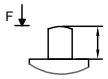
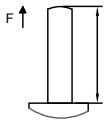


Blade terminals

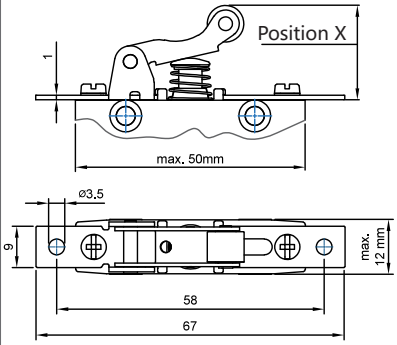


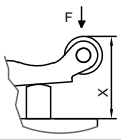
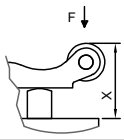
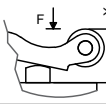
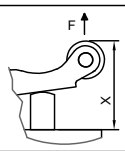
Push button



Position	Free position	Operating position	Positive opening	Total travel position	Release position
X(mm)	8.85 ±0.2	6.6 ±0.35	⊖ 5.9	4.9	7.8 ±0.35
Actuator position					
Force		Operating force	Positive opening force		Release force
F (N)	-	≥ 3.6	⊖ 10N	-	> 0.3

Roller lever



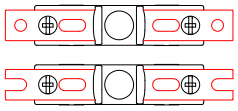
Position	Free position	Operating position	Positive opening	Total travel position	Release position
X(mm)	20.4 ±0.5	16.6 ±0.5	⊖ 14	13.0	18.4 +0.9
Actuator position					
Force		Operating force	Positive opening force		Release force
F (N)	-	≥ 3.0	⊖ 10N	-	> 0.2

Actor variants

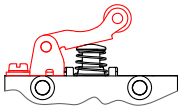
Push button

Push button / mounting plate x 2

with holes
opened

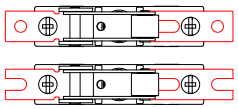


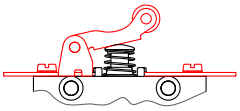
Roller lever



Roller lever / mounting plate x 2

with holes
opened





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S37 ordering code

example for order: **Se 7 R - 1 C 1 F 702**

1. Execution
2. Series
3. Actuator type
4. IP rating
5. Contact system
6. Contact material
7. Terminals
8. Special designs, optional

1. Execution	Se - switch without arc quenching (control current, electronics) Sm - Magnetic arc extinguishing switch
2. Series	7 - S37 Snap action switch with redundant contact bridges
3. Actuator type	P - Push button Q - Push button with two mounting plates R - Roller lever S - Roller lever with two mounting plates T - Roller lever with two mounting plates opened U - Push button with two mounting plates opened
4. IP rating	1 - IP 40 / IP 00 (Contacts/Terminals)
5. Contact configuration	C - SPDT-DB
6. Contact material	1 - Ag90 Ni10 2 - Ag90 Ni10, Gold plated
7. Terminals	F - Blade terminals (6.3 x 0.8 mm / 2.8 x 0.8mm) S - Screw connection
8. Special designs	001 - 699 (optional) 7xx - Positive opening (optional)

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Technical data

Description:	Value
Construction and isolation coordination according to:	DIN EN 60947-5-1, DIN EN 60947-1 GB 14048.5, EN50124-1
Safety assessment carried out according to:	Directive 2006/42/EC RoHS directive 2011/65/EU
Switch mounting / installation position X, Y, Z	any
Material, housing	BayBlend, Termoplastcompound
Material, contacts	Hard silver AgNi10
Material, connections	Bronze silver-plated
Roller lever / mounting made of steel	1.4301 / 1.4305 / 1.4310
Blade terminal	6.3mm x 0.8mm / 2.8mm x 0.8mm
Screw connection (cross-section)	0.75 bis 2.5 mm²
Dimensions (W x H x D) with push button	50mm x 37.5mm x 12mm
Dimensions (W x H x D) with roller lever	50mm x 49mm x 12mm
$\mathbf{U_i}$ Rated insulation voltage	400V
$\mathbf{U_{imp}}$ Rated impulse voltage / pollution degree	4kV / PD3
Overvoltage category	OV3
$\mathbf{I_{th}}$ (max.) Thermal continuous current	6A
Contact gap	2 x 0.85 mm
Circuit resistance (NO and NC) maximum	100 mOhm
Utilization category	AC-15: 230V / 1A DC-13: 110V / 0.5A
Short-circuit protection (IEC 60269-2)	6A gG / gL
Positive opening force (IEC/EN 60947-5-1, GB 14048.5)	10N
Positive opening travel distance (IEC/EN 60947-5-1, GB 14048.5)	see Page 3
IP rating	IP 40 / IP 00
Shock resistance	50g
Vibration resistance	30g
Maximum operating speed	1 m/s
Minimum operating speed	0.1 mm/s
Maximum switching frequency	300 cycles per minute
Maximum actuation travel without roller lever / with roller lever	3.95mm / 7.4mm
Min. Operating force without roller lever / with roller lever	3.6N / 3.0N
Min. Restoring force without roller lever / with roller lever	0.3N / 0.2N
Operating temperatur	-40°C bis +85°C
Mechanical life	min. 10 Mio. cycles
$\mathbf{B10_d}$ NC / NO with a low ohmic load	2 000 000 cycles
Approvals	CCC

All values were determined under laboratory conditions at room temperature and apply when new unless otherwise stated.

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EU-Konformitätserklärung
EU-declaration of conformity

Hersteller: **Manufacturer:**	**eWion components GmbH** Robert-Bosch-Str. 8 85117 Eitensheim Tel.: 0049 (0)8458 3234-70 e-mail: info@ewion.de
Hiermit erklären wir, dass die nachfolgend aufgeführten Bauteile aufgrund der Konzipierung und Bauart den Anforderungen der unten angeführten Europäischen Richtlinien entsprechen. We hereby declare that the components listed below are due to their design and Design meet the requirements of the European directives listed below.	
Bezeichnung des Produktes: **Name of the product:**	Schnappschalter Baureihe S37 Snap-action switch, series S37
Typ: **Type:**	siehe Typenschlüssel See type code
Beschreibung des Bauteils: **Description of the component:**	Mikroschalter, (Zweikreiswechsler mit Doppelunterbrechung und mit galvanisch getrennten Schaltkreisen) Microswitch, (Dual circuit changer with double break and with galvanically separated circuits)
Einschlägige Richtlinien: **Relevant directives:**	Maschinenrichtlinie 2006/42/EG, RoHS-Richtlinie 2011/65/EU Directive 2006/42/EC, RoHS directive 2011/65/EU
Angewandte Normen: **Applied standards:**	DIN EN 60947-5-1, DIN EN 60947-1
Name und Anschrift des Bevollmächtigten: **Identity and address of the authorized representative:**	Paul Wirz eWion components GmbH Robert-Bosch-Str. 8 85117 Eitensheim
Ort und Datum der Ausstellung: **Place and date of issue:**	Eitensheim, 2021-11-22
Rechtsverbindliche Unterschrift: **Legally binding signature:**	 _____ Paul Wirz, (Geschäftsführer, CEO)

eWion components GmbH

contact us if you need detailed informaon,
or need details about our snap-action switches.

Special designs are available according to customer requirements.

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